

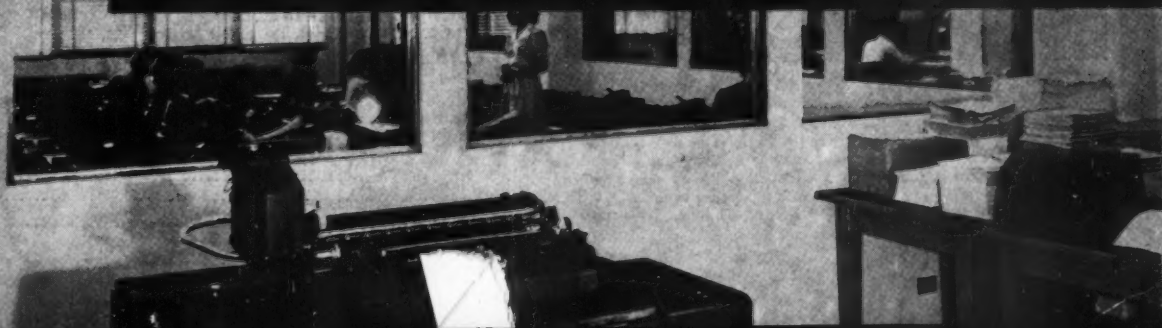
DA

DISTRIBUTION PAGE

SEPTEMBER, 1948



EXPRESS
AIR MAIL
L-5
EXPRESS BAGGAGE
FLIGHT
WEIGHT
INSTRUCTIONS ON BACK
STATE



How Stewart-Warner Corp.
Uses the

AUTOMATIC 4 STEP WAY

to Cut Unloading Costs \$6,222.50

Saves 4,750 Man-Hours!



1 DRIVE IN AND OUT OF BOXCAR WITH LOAD. Skylift moves through a standard 7 foot door. As shown here, operator drives inside car, forks pick up a pallet load of radio cabinets, and he moves out of car on his way to storage. Low collapsed height of 83 inches permits this. And it handles as easy as an automobile, with easy finger-tip lever control for lift and tilt, forward and reverse.

2

NARROW AISLES NO HANDICAP. As shown, Skylift is light weight, compact—moves through narrow aisles, turns sharp corners, moves to storage areas in minimum time, with minimum effort. Compare this with tedious, back-straining effort of moving cabinets manually. Yes, Skylift lightens labor's load, management's, tool



An ATCO Specialist will make a free survey to determine how much you can cut your product handling costs. Mail coupon.

3

CEILING HIGH STACKING. Once in the storage area, a flip of the tilt and lift lever, and the load of radio cabinets is stacked easily and neatly to ceiling heights—as high as 130 inches, providing extra storage space free. When required for the production line, cabinets are brought to floor level just as easily, ready for movement to production.



4 TRANSPORTERS MOVE PRODUCT FROM STORAGE TO PRODUCTION. Automatic's mighty midge of electrical power receives the pallets of radio cabinets and moves them with easy push-button control to the production line. Dual-Lift Foot Pump, or ATCO Electric Lift gets load off floor into moving position, and Transporters again take the finished radios from end of production line to shipping—a 4-way product handling operation utilizing minimum energy, maximum savings!



AUTOMATIC TRANSPORTATION COMPANY
DIV. OF THE YALE & TOWNE MFG. CO.

115 West 87th Street, Dept. P-8, Chicago 26, Ill.

Please mail me, without cost, complete facts on how I can cut my material handling costs with Automatic Skylift and Transporter Electric Trucks.

☐ Have an ATCO Specialist make a free survey of my material handling methods and costs.

Company Name.....

By..... Position.....

Street Address.....

City..... Zone..... State.....



96 MAN HOURS

CUT TO 32 — WITH

BAKER TRUCK

Crane Truck at NATIONAL ACME CO. pays for itself in 8 months

This Baker Crane Truck, unloading 20-ft. steel tubes each weighing 260 lbs., cuts man hours by 2/3 over former methods. Actual savings — as shown in tables below — are even greater than estimates made before the truck was purchased:

Man Hours per car — Previous Methods



Remove blocking from car	0.5 hrs. x 4 men	2.0
Unload to trailer 100,000 lbs.	11.0 hrs. x 4 men	44.0
Clean car	0.5 hrs. x 4 men	2.0
Haul to storage		
Unload from trailer to pile	12.0 hrs. x 4 men	48.0
Return empty trailer		
Total man hours		96.0

96 MAN HOURS

Estimated Man Hours with Baker Truck



Remove blocking from car	1.0 hrs. x 2 men	2.0
Unload to trailer 100,000 lbs.	11.0 hrs. x 2 men	22.0
Clean car	1.0 hrs. x 2 men	2.0
Haul to storage		
Unload from trailer to pile	9.5 hrs. x 2 men	19.0
Return empty trailer		
Total man hours		45.0

45 MAN HOURS

Actual Man Hours with Baker Truck



Remove blocking from car	0.5 hrs. x 2 men	1.0
Unload to trailer 100,000 lbs.	7.0 hrs. x 2 men	14.0
Clean car	0.5 hrs. x 2 men	1.0
Haul to storage		
Unload from trailer to pile	8.0 hrs. x 2 men	16.0
Return empty trailer		
Total man hours		32.0

32 MAN HOURS

(Above) Boom of Baker Crane Truck leaving box car with load of ten 2 3/4" x 20 ft. steel tubes.

(Below) Baker Crane Truck loading tubes onto trailer. Each tube weighs 260 lbs., load weighs 2600 lbs.

A Baker Material Handling Engineer can show you how to make similar savings

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Co.

2176 WEST 25TH ST. CLEVELAND, OHIO
In Canada: Railway & Power Engineering Corporation, Ltd.

National Acme Co. is making comparable savings on other handling operations with Baker Trucks. This illustration shows a Baker Fork Truck moving a box of finished bushings weighing 3130 lbs. from production directly to railroad car for shipment.



Baker INDUSTRIAL TRUCKS

ALONG THE WAY...OF TWA



TWA...HOST TO 33 DOGS—AND A CAT!

DOGS...CATS...KANGAROOS...YOU CAN SHIP ANYTHING VIA **TWA** AIR CARGO. FOR INSTANCE, IN BOMBAY, A RECENT BILL OF LADING DECLARED: "33 ASSORTED DOGS AND ONE ANGORA CAT...DESTINATION: PARIS." **TWA** PLANES ARE HEATED...INSULATED...ASSURING COMFORT FOR MAN OR BEAST.

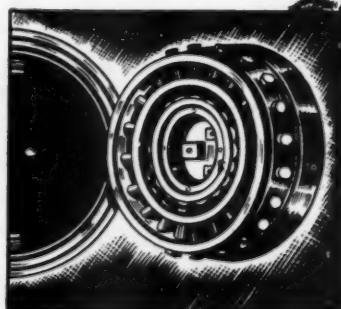
ANSWER MAN

WHENEVER THE SHIPMENT COULD, SHOULD OR **MUST** GO BY AIR...GET IN TOUCH WITH THE **TWA** AIR CARGO MAN IN YOUR LOCALITY. HE'LL ANSWER YOUR QUESTIONS... PRONTO. GOOD MAN TO KNOW.



HOW TO FIND HIM

LOOK IN THE LOCAL PHONE BOOK UNDER **TWA** (TRANS WORLD AIRLINE). CALL. ASK FOR AIR CARGO MANAGER. LOW RATES WILL SURPRISE YOU.



VAULTS THROUGH THE AIR

TWA INTERNATIONAL ALL-CARGO FLIGHTS OFFER ADDED PROTECTION OF A 'STRONG BOX' TO GUARD VALUABLES EN ROUTE. VAULT HOLDS A TON...PERMITS HAND-TO-HAND RECEIPT/DELIVERY OF SHIPMENTS.

MAKES A MIDGET OF THE MAP

Air Cargo routes shrink the globe. On the "road to Rome" via TWA... shipments arrive in less than a day!



TWA

TRANS WORLD AIRLINE

U.S.A. • EUROPE • AFRICA • ASIA

SHIP WHEREVER YOU SAY... via TWA

TWA Air Cargo routes permit shipments direct to Europe, Africa, Asia... without off-line handling. Help solve shipping problems. Call the TWA office today, or—if you are shipping overseas—any international freight forwarder can also give you complete information.

THIS MONTH'S COVER—Systems and equipment are the nerves and brain of distribution. The flow of merchandise is the result of thousands of impulses stemming from individual cost records, sales entries, notations on traffic movement, etc., which are converted by modern equipment into broad cost facts, warnings and merchandise ideas. These flex the muscles of distribution: move goods faster, cut costs and bolster profits. Photographs by Ewing Galloway.

DISTRIBUTION AGE

The Magazine That Integrates All Phases Of Distribution

100 E. 42nd St., New York 17

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Publisher

D. J. WITHERSPOON
Editor

GEORGE POST
Assistant Manager

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September, 1948

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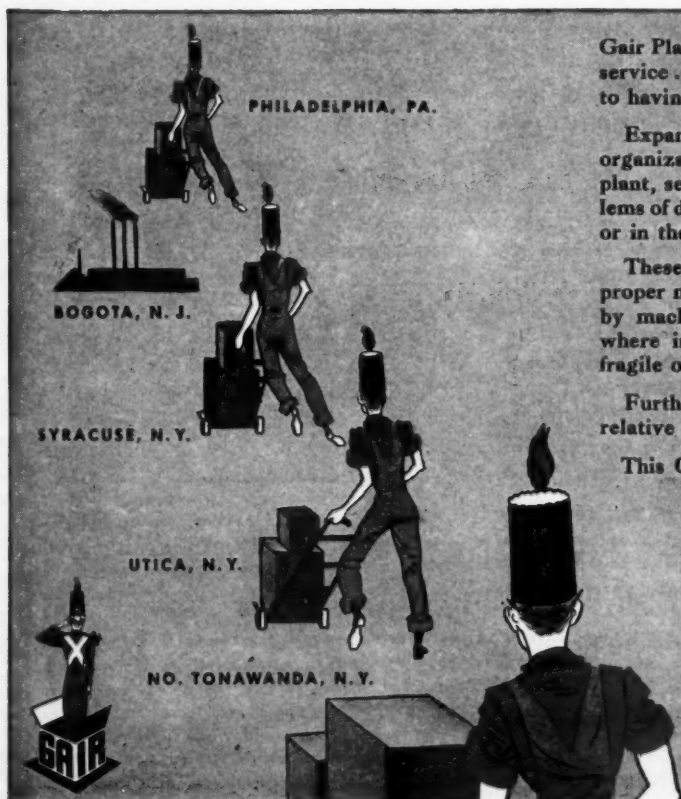
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STATEMENT OF POLICY . . . Our policy is based on the premise that distribution embraces all activities incident to the movement of goods in commerce. If distribution is to be made more efficient and economical, we believe business management must consider more than sales, because more than sales are involved. Marketing, while vital, is one phase only of distribution; seven other practical activities not only are necessary but condition marketing costs. Most commodities require handling, packing, transportation, warehousing, financing, insurance, and service and maintenance of one kind or another before, during or after marketing. We regard all of those activities as essential parts of distribution. Hence, the policy of DISTRIBUTION AGE is to give its readers sound ideas and factual information on methods and practices that will help them to improve and simplify their operations and to standardize and reduce their costs in all phases of distribution.



STRATEGIC PLANT LOCATIONS

make **ROBERT GAIR** your next-door neighbor



Gair Plants are strategically located to render maximum service... a **CONTAINER SERVICE** that is almost equivalent to having a **GAIR PLANT** in "YOUR OWN BACK YARD."

Expanding beyond shipping facilities, the **ROBERT GAIR** organization provides technical cooperation. At each plant, service engineers are available to help solve problems of designing or redesigning your present containers, or in the creation of new containers for new products.

These packaging engineers are prepared to advise on proper methods of sealing containers, either by hand or by machine. This technical information is invaluable where interior packing has been designed to protect fragile or valuable merchandise.

Furthermore, these **GAIR REPRESENTATIVES** know the relative merits of corrugated, solid fibre, jute and Kraft.

This **GAIR**anteed service is available for the asking.

Write for your Free Copy of

1. Sealing of Corrugated and Solid Fibre Containers, or
2. Container Handbook.

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NEW YORK • TORONTO

PAPERBOARD • FOLDING CARTONS

SHIPPING CONTAINERS

"easier to handle... easier to load"



CHARLES NEITZ speaks for the drivers of B. F. Costich & Sons, Inc., Rochester, N. Y.

The men who know Gerstenslager Bodies best are those who work with them day in, day out. Charles Neitz is typical. His experience is a natural result of the way Gerstenslager Bodies are designed and built. It is something to keep in mind when you contemplate buying a new van.

THE GERSTENSLAGER CO., WOOSTER, O.
Established 1860



B. G. Costich & Sons Inc.

271 HAYWARD AVENUE
ROCHESTER N. Y.

CULVER 0780

June 12th, 1948
Our 46th Year
of Service

The Gerstenslager Company,
Wooster, Ohio

Gentlemen:

Our first Gerstenslager body was put into service on April 26th, 1932. The body shown in the picture is only eight years old and is practically a new body, considering the fact that our Gerstenslager bodies are in use after fourteen and sixteen years of service, and are good for economical use for many years to come.

When I first started to drive long distance, our truck bodies weighed twice as much, and had half as much loading capacity. They were awkward, ungainly bodies covered with banding iron and reinforcing steel that weighed more than the load they were expected to carry.

Speaking for the men at our barn, we find the new streamlined Gerstenslager bodies easier to handle, less exhausting for driving miles over the highway, and easier to load. We especially like the comfortable cab that permits relaxation even while driving and permits plenty of room for the relief driver to stretch out and be comfortable and relaxed.

There is no finer looking, more practical and economical body traveling the highways today than a Gerstenslager!!!

Yours very truly,

B.G.COSTICH & SONS, INC.
A United Van Line Agent

by *Charles Neitz*
Charles Neitz, Barn Steward

GERSTENSLAGER

custom-built

VAN BODIES

The "Big Leaguers"

are swinging to



**North
American**

for **LONG DISTANCE MOVING**
of household goods!

On every personnel move, North American "scores" with satisfaction! This is why the "Big Leaguers" of our nation's industries are calling in North American for important moves to all parts of the country.

On your next move, make it North American. You'll find it is a distinct

pleasure...a real satisfaction to do business with us. Consult the classified section of your phone book for our agent nearest you. Call him now! Get our estimate on long distance moving and storage.

North American
Van Lines, Inc.

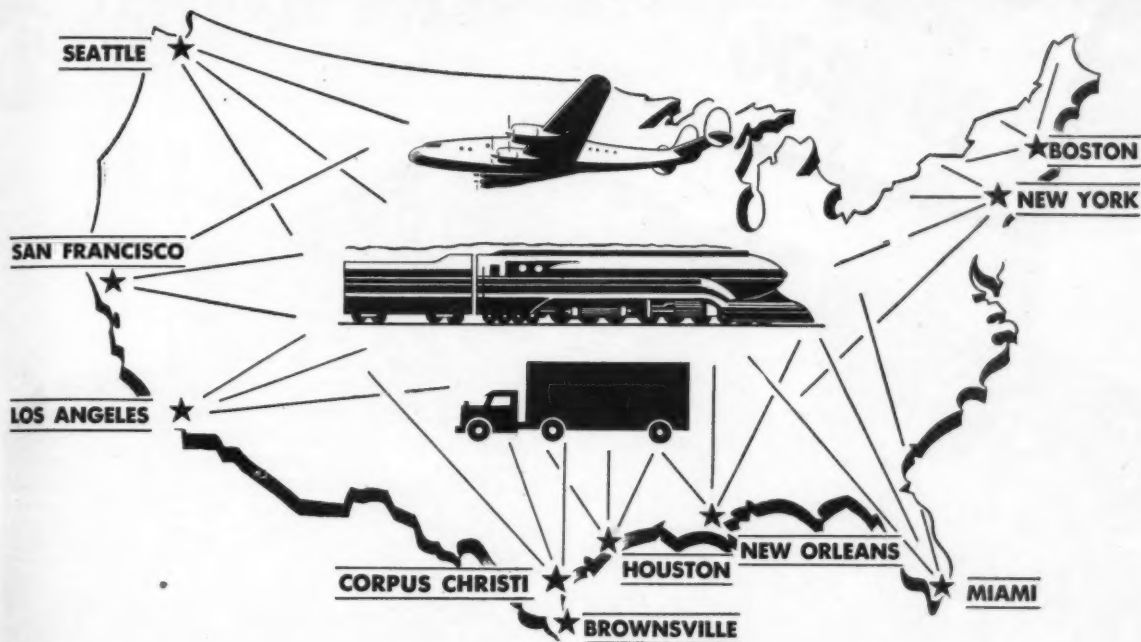
GENERAL OFFICES: FORT WAYNE, IND.



- Over 500 agents to serve you.
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You get personalized service on

CLIPPER CARGO



306 Specially-Staffed Shipping Agents and 12 Domestic Airlines speed your goods to Pan American Gateways

TODAY, wherever international trade flows, Clipper Cargo flies. From the 10 conveniently located gateways shown above, Pan American speeds your shipments to Europe, Africa, the Near East and India; to Central and South America; to New Zealand and Australia; and to Asia and Alaska. Only Pan American flies between all 6 continents and *no airline in the world flies to so many principal cities throughout the world.*

You'll find Clipper Cargo saves you money on

bulk shipments (25% less for over 100 pounds). You save, too, with low-cost insurance, lower inventories and warehouse costs, C.O.D. and collect services, faster turnover of your money, and lower packing costs.

306 local shipping agents and 12 domestic airlines are ready to speed your goods to Pan American gateways. For full information, call your Shipping Agent or any of our offices listed below.

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Miami: Miami 3-7383
Minneapolis: Lincoln 0617
New Orleans: Canal 6391

New York: Stillwell 6-0600
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Seattle: Seneca 2121
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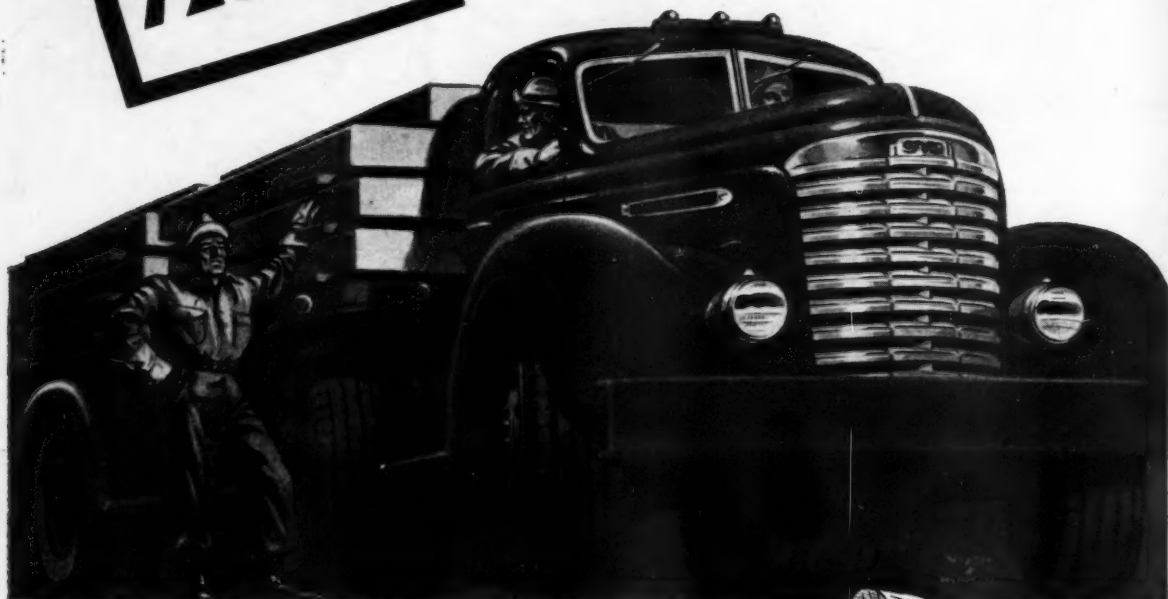
PAN AMERICAN
WORLD AIRWAYS



GMC
SERIES
720 AND 800

Winning Numbers

FOR HEAVY HAULERS

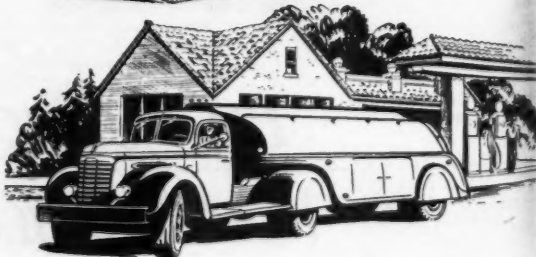
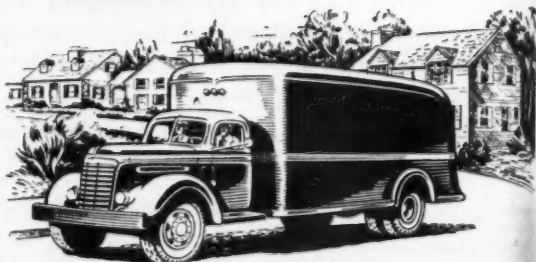
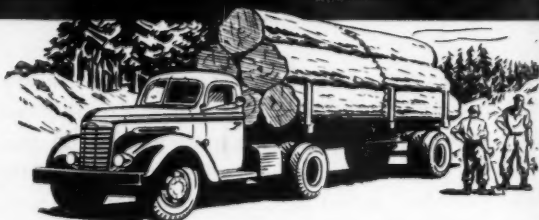


Here's good news for operators hauling heavy loads of milk, petroleum, machinery... logs and lumber... stone and ore... furniture and freight. Substantial production of GMC 720 series Specialized Tractors and 800 series straight truck models, assures quick delivery.

GMC 720 series tractors have gross combination weight ratings of 40,000 pounds... the 800 series trucks have gross vehicle weight ratings of 30,000 pounds. Both are offered in wheelbases of 136 to 196 inches, with cab-axle dimensions of 60 to 120 inches. Both have big 426 cu. in. engines of the same basic design as the war famous "Army Workhorse." Both have many other features specific to the jobs for which they are built.

If you need a new truck in either classification, put your money on one of these all-truck, heavy duty GMCs.

GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION



THE TRUCK
OF VALUE

GMC
TRUCKS

GASOLINE
• DIESEL

DISTRIBUTION AGE SEPT

DO YOU KNOW? *By Using BEMIS* **TITE-FIT TUBING**

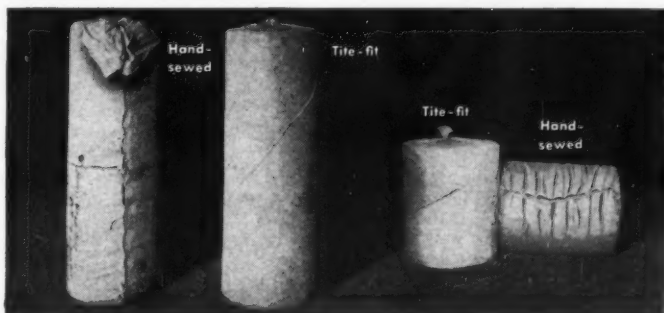
YOU **REDUCE** labor and material costs, because you:
ELIMINATE handling heavy bales of burlap.
ELIMINATE time required to open bales and remove bale coverings.
ELIMINATE time required to cut burlap into sheets.
ELIMINATE using more burlap than necessary.
ELIMINATE all hand sewing.
IMPROVE the appearance of your rolls.

YOUR CUSTOMERS **RECEIVE** neat

packages that are easy to handle, because there's a handy ear on each end.

SAVE TIME as TITE-FIT TUBING is easily and quickly removed. Just untwist wire tie at one end and slip tubing off.

ELIMINATE chance of cutting into contents and damaging goods, as no cutting of sewing thread or goods is necessary.



This versatile tubing fits almost any shape and a wide range of package sizes. One roll may cover many different diameters and lengths neatly, without waste because TITE-FIT TUBING has stretch in both directions.

5 QUICK STEPS

That's all it takes when you package with Tite-Fit Tubing



1. Pull tube well down over object, leaving an overage to cover bottom.



2. Turn package on side and fasten tube at bottom with a wire tie.



3. Turn package upright and use both hands to take up slack.



4. Fasten top with a wire tie close to object to assure tight fit.



5. Cut off the Tite-Fit Tubing about 3 inches above the wire tie.

BEMIS BRO. BAG CO.

Brooklyn 32, New York



Canadian Bag Co., Montreal, and the Ontario Bag Co., Port Colborne, Ontario, are licensed manufacturers of TITE-FIT TUBING in Canada.

MAIL COUPON NOW

Bemis Bro. Bag Co.
5120 Second Ave., Brooklyn, N. Y.

- ☐ Send descriptive folder on TITE-FIT TUBING
☐ Send sample. Our packages are approximately _____ inches in circumference. (Please specify)

Name _____

Firm _____

Street _____

City _____ Zone _____ State _____



The Governor of Nebraska *invites You*

VAL PETERSON
GOVERNOR



STATE OF NEBRASKA
EXECUTIVE OFFICE
LINCOLN

To American Industry:

In the last decade, Nebraska's productive capacity has grown threefold. Modern industry has found in increasing numbers that Nebraska's diversified assets form the economic cornerstone of a better tomorrow!

Here there is respect and reward for individual initiative, whether its hallmark be overalls or a business suit. Nebraskans prize ingenuity, cooperation and achievement. Their fundamental faith is reflected by Nebraska government in a conscientious resolve against debt, restrictive taxes and regulatory legislation.

In behalf of all citizens, I invite industry to share Nebraska's unique heritage as the continental crossroads of commerce and heart of a land unmatched in natural wealth.

Sincerely,

Val Peterson
Governor



Val Peterson

* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners



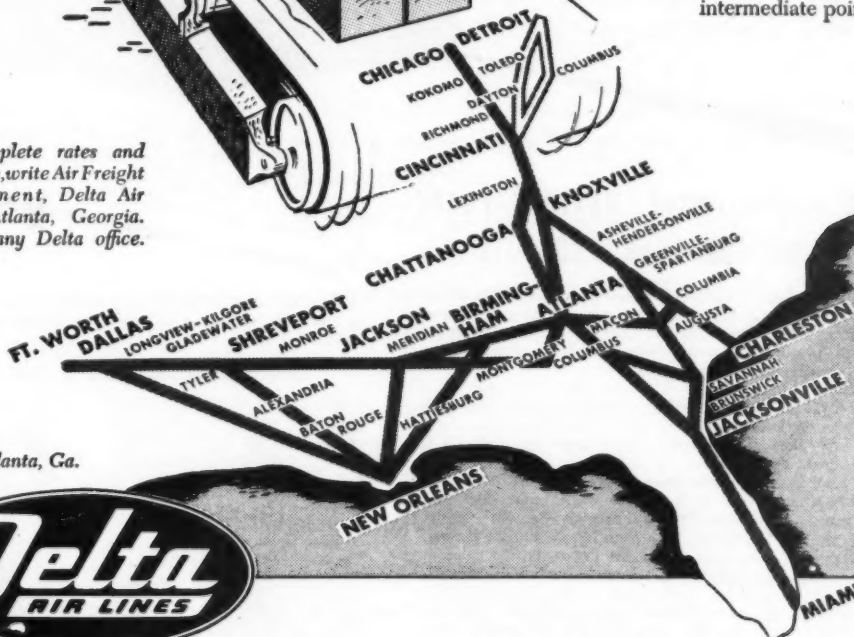
Delta Air Freight

Continuous Conveyor

TO and THRU the SOUTH

The shipper's advantage in Deltaliner schedules is this: round-the-clock departures give you the continuous delivery service of a conveyor belt to Southern cities. Express flights are synchronized with local flights; your goods move without delay both to major terminals and on to all intermediate points.

For complete rates and schedules, write Air Freight Department, Delta Air Lines, Atlanta, Georgia. Or call any Delta office.



General Offices: Atlanta, Ga.



From off-line points, Delta offers excellent connections at Chicago, Cincinnati, Knoxville and Atlanta from central and eastern points. Far West shipments are fast when routed via Delta through either Chicago or Dallas-Fort Worth. And Delta-TWA one-plane flights from Detroit to the South add still more speed and service.

This air speed to and through the South costs little. Between many points, it is less than first class surface means. And to even the most distant points, it costs only slightly more to save days in transit and the dollars those days represent.

Delta Air Freight Rates
Per 100 Pounds Between

Chicago-Cincinnati	\$3.07
Cincinnati-Atlanta	4.55
Atlanta-Chicago	6.55
Dallas-New Orleans	5.05
Cincinnati-New Orleans	8.00
Detroit-Atlanta	6.55
Detroit-Birmingham	7.55
Fort Worth-Atlanta	8.00
New Orleans-Atlanta	5.05

DELTA AIR FREIGHT *takes a load off your mind—*

*Cut your costs—
hold your markets*

WITH
DRAVO
TRANSPORTAINER

**ALL STEEL PILFER-PROOF, WEATHER-PROOF
PROTECTION FOR YOUR PRODUCTS**

Industry today is examining more than ever before *internal* methods of operation to find clues to greater efficiency and economy. Successful application of heretofore untried techniques of both production and distribution generally pays off in tangible results—and lower costs.

The DRAVO Transportainer fits into just that sort of a picture. This new, all steel shipping container has been tried and *adopted* by more and more firms who have found that their costs have been materially lessened—particularly when it is specified for export shipments.

Packaging charges are minimized because the DRAVO Transportainer allows you to use less expensive domestic crating when goods are destined for overseas trade. Important, too, is the fact that your products also enjoy vault-like protection from pilferage, damage and weather hazards.

One shipper reduced export packaging costs by 67 percent. Another reported 75 percent reduction in breakage. "Not a single case of theft to date," states a carrier who uses the DRAVO Transportainer for shipping highly pilferable commodities.

Would you like the assurance of knowing your merchandise arrives at destination in the same condition it left your plant? Would you like to open your mail without finding a letter of complaint from a customer regarding shortages or damage?

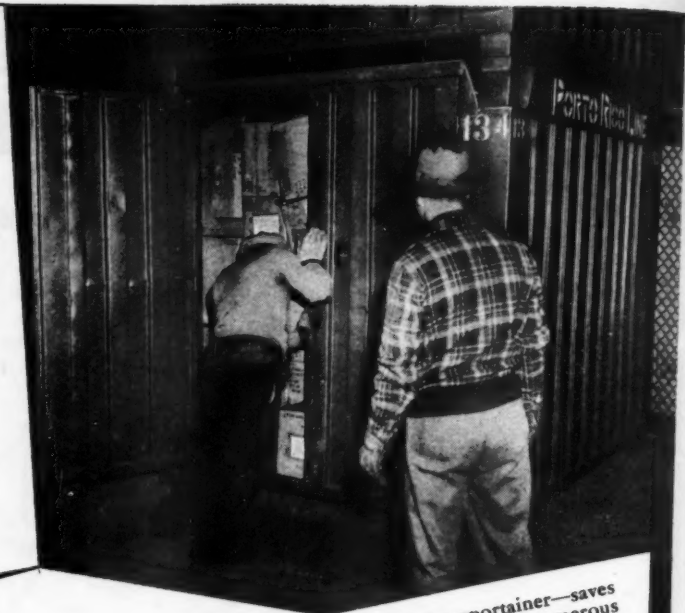
Send the coupon below for more information—and discuss this modern method of shipping with your carrier. He already may be using DRAVO Transportainers. DRAVO CORPORATION, Neville Island, Pittsburgh 25, Pennsylvania.

DRAVO
CORPORATION
NEVILLE ISLAND, PITTSBURGH 25, PA.



Export Representatives
Lynch, Wilde & Company
Washington, D. C.

Shipyards: Pittsburgh 25, Penna., and Wilmington 99, Delaware
Eastern Sales Office: 30 Church Street, New York 7, N. Y.



One package—the DRAVO Transportainer—saves handling, marking, weighing and checking numerous smaller pieces. Double, full opening doors close with a latch operated by a lever and can be locked with a padlock, seal or special key.

TRANSPORTAINERS are easily handled by ship or yard cranes or lift trucks. They have a bale capacity of 275 cu. ft. and hold up to 12,000 lbs. of cargo.

DRAVO Transportainers help to lessen distribution losses



PILFERAGE



HANDLING COSTS



WATCHING TIME



DAMAGE



SPOILAGE



INSURANCE CHARGES



See our exhibit at the Third Annual Industrial Packaging and Materials Handling Exposition, Hotel Sherman, Chicago, Oct. 5 through Oct. 7, 1948.

DRAVO CORPORATION,
Room M-1114-9
Neville Island, Pittsburgh 25, Pa.

P-6396

We would like to know more about DRAVO Transportainers. Please send literature.

Name.....

Position.....

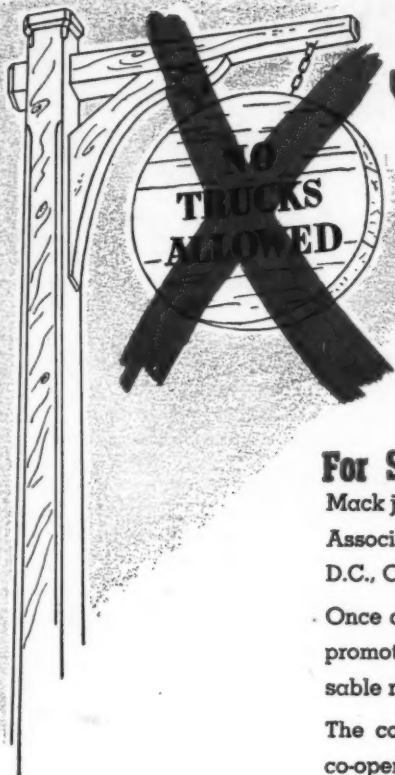
Name of Company.....

Address.....

City and State.....

DISTRIBUTION AGE

SEP



"ATA boy!"

For Services Rendered to truckers all over the nation, Mack joins with the industry in saluting the American Trucking Associations at their 15th Annual Convention in Washington, D.C., Oct. 8 to 13.

Once again ATA can look back on a year of fruitful effort in promoting and protecting the welfare of America's indispensable motor carriers.

The continuing success of ATA is a tribute to the spirit of co-operation that animates the entire field of motor transport — uniting its members in common purpose and bringing to American industry and consumers alike countless benefits in lower costs and faster, more convenient service.

ATA is a vital part of the trucking industry — a bright and shining part that helps you prosper. That's why we say — join with us in saying . . . "ATA boy!"

★ ★ ★ ★ ★

MACK will be on hand to greet you when you come to the ATA convention. Our headquarters will be at the Hotel Statler where a cordial welcome awaits you. We are again awarding a pedigreed Bull Pup, "Mack", as a convention door prize.



Mack

TRUCKS FOR EVERY PURPOSE

Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada, Mack Trucks of Canada, Ltd.



IT'S PART OF THE LANGUAGE, "Built Like A Mack"

United PRE-PLANNED Moving

...a "push-button" Service



PRE-PLANNING

At your fingertips . . . United Van Lines' complete services and facilities assure smooth pre-planned personnel moves. It starts with a trained United representative going over details with your people . . . carefully planning before moving day!

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With modern equipment and time-saving techniques United's alert, experienced men do a prompt and thorough job! Precious possessions are carefully handled, individually packed, moved and delivered according to schedule.

CAREFUL MOVING

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More and more service-wise Traffic Managers are depending on United Van Lines for pre-planned personnel moving that arrives on time!

• • •

To call your local United agent, see your Classified Telephone Directory, or write or wire Moving Headquarters . . .



MOVING WITH CARE EVERYWHERE

United VAN LINES, INC.

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*They Planned the **INS** and **OUTS***



at this Syracuse Plant!



PLANNING a grocery warehouse—like planning any other building—is a task that calls for the combined assistance of the men who design it and those who must coordinate the flow of both incoming and outgoing shipments.

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S. M. Flickinger Co., Inc., Syracuse, New York—a large distributor of groceries, frozen foods, produce and liquor, over a 300-mile radius—attributes much of the company's present efficiency to the good dock facilities in this new plant.

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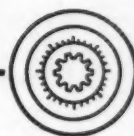
79 Factory Service Branches



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EDITOR'S PAGE



Accounting's Role in Distribution

ELSEWHERE in this issue, D. W. Northup, president of H. G. Thompson & Son Co., outlines a scientific approach to the problem of profitless small orders which even in normal times are a heavy burden upon our distributive system. The methods which Mr. Northup ably discusses are being employed successfully by a group of distributors through whom approximately 2.3 billion dollars in production and maintenance supplies are channelled yearly to American industry. This discussion is well worth the serious consideration of readers; however, the point we want to emphasize here is the fact that the plan is based upon the use of a unified costing system which enables firms participating to set up uniform cost categories and to charge into these categories exactly the same cost items. In other words, the plan provides in the specific field in which it is used, a common cost language.

In other, broader fields of distribution, we are not going far afield when we say that relatively few firms know their actual distribution costs or are able to make functional breakdowns of their basic operations in either physical distribution or marketing. Lacking a universal cost language, there is little agreement among companies in the matter of allocating functional costs with the result that many costs which should be segregated, if inefficient operations are to be detected and corrected, are lumped with other costs or are absorbed and hidden under production, sales or administrative costs. Under these conditions, it is difficult to see how any intelligent or systematized approach can be made to the problem of reducing overall distribution costs.

Distribution admittedly is an expensive and complex process. It is both inaccurate and pointless to say that distribution costs too much since, obviously, distribution costs are too high only when opportunities exist for effecting economies without any curtailment in product quality or in services rendered. But that these opportunities do exist is all too evident. Their existence repeatedly is being demonstrated in the substantial savings that currently are being realized through the use of modern systems and equipment and in cost reduction programs such, for example, as Mr. Northup discusses in this issue.

The cost of each of the various steps involved in the movement of goods from the source of the raw material until the finished product is in the hands of the ultimate consumer or user, is an element of overall distribution cost. Each is a component part of the price that the ultimate consumer pays for a commodity. Each must be analyzed and coordinated with other distributive factors and properly evaluated by management before the total cost can be determined with any degree of accuracy. Until this can be done by standardized accounting methods; first, with respect to individual firms and secondly, with respect to basic industrial and mercantile groups, it is difficult to see how average total cost for either a product or a classification of products can be arrived at.

The lack of agreement in the allocation of distribution costs and the lack of uniform accounting standards are not conducive to efficiency in distribution. Certainly cost accountants and controllers should be able to work out practical formulae for basic distribution costs comparable to those which have been accepted for production. In the formulation of such standards, accounting can perform a service of inestimable value to distribution.

"Accounting," as William Blackie, vice president of the Caterpillar Co., recently told a gathering of cost accountants, "must make up its mind whether it is primarily a matter of historical monetary arithmetic or of constructive business economics. Today, it is afloat in the limbo between the two concepts."

More and more, Mr. Blackie stated, it is being realized that while each individual business may for some purposes be considered a separate entity, it is for economic purposes a component unit of the national, or even international, production and distribution system. As such, each unit has a part to play in making the system work effectively; and if accounting can help bring that about then it truly will have become a constructive force from the standpoint of society as a whole.

D. J. Witherspoon
Editor.

NEXT MONTH

LETTERS to the Editor

The OCTOBER issue of DISTRIBUTION AGE will feature:

DEVELOPMENTS AND TRENDS IN MOTAIRCARGO . . . Motaircargo is not leaving distribution where it found it . . . New developments are the catalyst which is speeding the drive for economy, efficiency, and higher productivity. New low-cost air freight services are being developed and these are being supplemented by more efficient and economical pick-up and delivery systems . . . Staff correspondents and leading air transportation authorities will discuss the facts and implications of current trends and developments in the October DISTRIBUTION AGE.

REGULATION RATHER THAN PERSECUTION . . . G. Lloyd Wilson, eminent transportation authority, discusses the potent Reed-Bulwinkle Act which exempts carriers from the threat of anti-trust law prosecution. This measure, while not immunizing carrier rate and traffic agreements from Government regulation, brings such conferences and agreements under I.C.C. jurisdiction. By establishing a situation in respect to railroads which is akin to that of shipping Conferences, threat of prosecution because of inter-carrier agreements is avoided and is replaced by I.C.C. regulation of such agreements and not, be it noted, of the rates themselves.

PUTTING THE FINGER ON COSTS, or the "Twilight Zone" of Physical Distribution and marketing . . . Actual case histories throw light on the problem of coordinating the physical phases of distribution with those of marketing. Frederick Merish, special correspondent, details many of the problems faced by industry and the high flexibility required to anticipate and solve the complications that arise in actual practice. Interestingly enough, Mr. Merish "zones" the physical functions of distribution to emphasize the integral nature of the problem.

MATERIALS HANDLING GOES TO SCHOOL . . . International Harvester is now engaged in educating its thousands of foremen in the standardization and improvement of materials handling methods. Randall R. Howard, special correspondent, discusses the visual and written material used in the course and the important role played by the company's research laboratory. The article emphasizes the need for a high degree of coordination between the foremen and the materials handling engineer within each plant.

Sir:

I am a small manufacturer of cotton web transporting straps, and I am impressed with the seeming lack, in some instances, of proper air cargo strapping facilities. I am wondering if Dr. Frederick who writes on air transportation would care to comment on this.

—"Reader".

Editor's Note: Dr. Frederick's comment follows:

"Furnishing adequate tiedown for air cargo will indeed be big business. Because plane loads vary widely in shape, volume, and weight and because planes are subject to more twists and turns, and suddenly applied forces than any ship or railway car, some form of tiedown is absolutely necessary. Some use ropes, others use web belts similar to those you manufacture and others use not only rope but rods, beams, locks and jacks. Another method is not to actually tie down individual packages but use cargo bins solidly filled and fastened by means of a strap net gate. It would appear that straps might be useful in making these "gates." I would suggest that firms interested in entering this field contact Air Cargo Inc., 910 Seventeenth St., N. W., Washington 6, D. C. The Air Cargo managers of the leading airlines whose names and addresses may be obtained from the American Aviation Directory, obtainable in most libraries or from the Air Transport Association of America, 1107 Sixteenth St. N. W., Washington 6, D. C. also should be contacted. I would suggest a visit to Newark Airport or Teterboro Airport near Newark where many cargo lines operate for a first hand inspection of tiedown methods and contact with operators.

• • •

Shippers Advisory Boards

Sir:

I was very much impressed with Henry G. Elwell's article in your June issue, "A Skeptic at a Board Meeting." The article is extremely interesting and very accurate.

It occurred to me that Mr. Elwell might be interested in the attached letter from the Hon. Kenneth Royall, Secretary of the Army.

—Carl Giessow, president, National Assn. of Shippers Advisory Board, St. Louis, Missouri.

Editor's Note: The correspondence forwarded for Mr. Elwell's attention is reprinted in part as follows:

Dear Mr. Giessow:

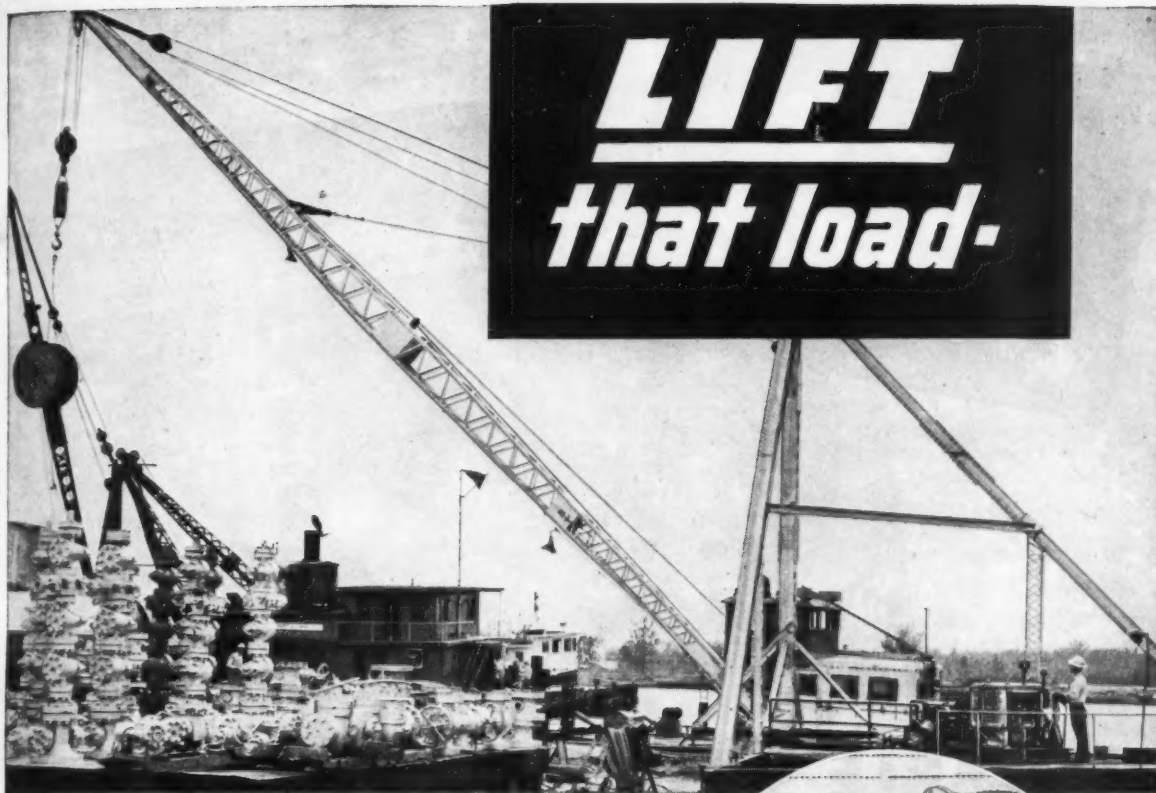
Receipt is acknowledged of your letter of 12 May 1948 with reference to the activities of the several regional Shippers Advisory Boards during the past quarter of a century.

The activities of these boards are well and favorably known within the Department of the Army. It is appreciated that during World War II, actions of the boards and shippers represented by them were not only of great value to the transportation industry of the nation but were also instrumental in large measure in helping make available to the Army and to those who supplied it with material, railroad freight-carrying equipment in sufficient quantities to avoid any serious railroad car shortages which would have been inimical to the conduct of the war and to national interest.

The Committees which have been maintained by the Shippers Advisory Boards working in cooperation with the Car Service Division of the Association of American Railroads certainly should continue to direct their efforts toward efficient use and prompt release of railroad rolling stock, and such continued action will be welcomed by the Department of the Army in the same measure that it has been welcomed by the individual carriers. Shipper cooperation with the railroads should continue to be considered just as vital now during the period of army operation of railroads as during private operation, and such cooperation on the part of the boards and on the part of your National Assn. is solicited.

It is gratifying to note the assurance contained in your letter that while shippers may not be sympathetic to Government operation of railroads, they recognize its need under the existing circumstances, and it is important that the shipping and traveling public be urged to maintain a sympathetic attitude toward the Army operation of railroads, which, as you know, is intended to be of only a temporary nature.

Your expression of feeling that shipper cooperation advice and counsel should be used by the Government is greatly appreciated, and if the Department of the Army subsequently finds it necessary to take a more detailed part in the actual conduct of transportation, such advice and counsel will be sought. In the meantime, the Interstate Commerce Commission, the Office of Defense Transportation, and the regulatory commissions of the several states are continuing to function as heretofore.



LIFT
that load.

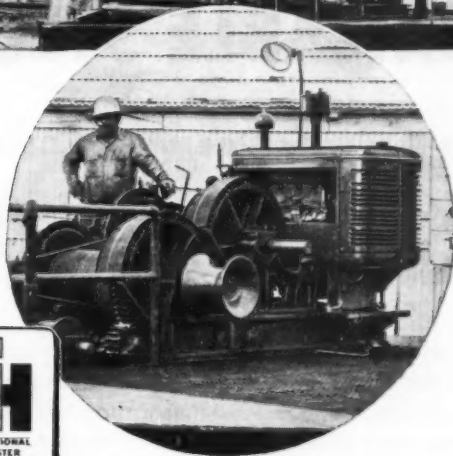
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Here's a typical installation to prove the point. This International U-9 engine powers a 15-ton derrick. The derrick is used to stockpile materials in the storage yard of the California Co. of New Orleans. Here it's shown unloading machinery from an oil well drilling barge—a pretty hefty job.

The engine burns cheap natural-gas and has given about 4,000 hours of service in two years' time. It's always on the job to lift those loads.

This is just one of a great variety of applications for International power units. Four carburetor-type



models ranging from 22 h.p. to 55 h.p. and six Diesel models ranging from 39 h.p. to 180 h.p. give you a wide choice of engines for your particular job.

It'll pay you to visit your International Industrial Power Distributor. He'll be glad to help you select the right International engine for your specific application.

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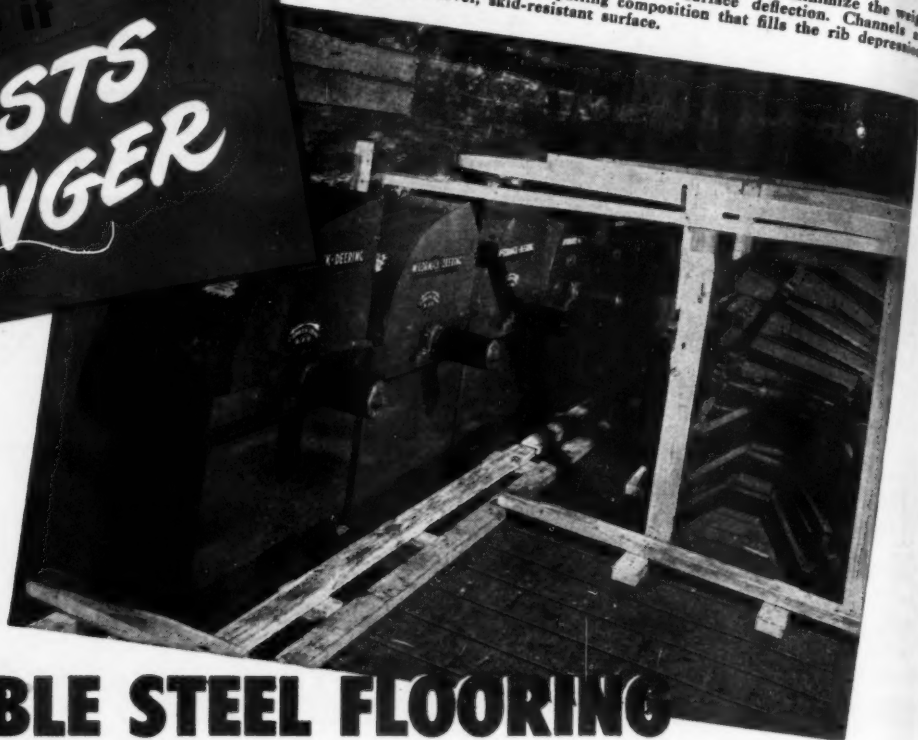
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SEPTEMBER, 1948

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How often must shippers kick cars out empty because the floors aren't good enough for the particular outbound lading? How much time and money is spent switching boxcars—to spot them for loading according to the floor condition? The answers are *too often* and *too much*—because wood floors in most cars soon become damaged and car classifications must be reduced. Then cars must be shunted around empty until a load is available for which the floor is suited. This extra switching of Class B cars and rough-freighters not only cuts into shippers' car supply—it raises railway operating costs.

NAILABLE STEEL FLOORING eliminates much of this

*PATENTS PENDING

extra switching because it stays in Class A condition longer. It isn't damaged by nailing, pinch bars, abrasive freight or loading equipment. It has the strength to support the largest fork trucks used in boxcars. NAILABLE STEEL FLOORING is built to last as long as the car itself and stay in Class A condition during that time. Here is an all-purpose floor that *stays* that way, that can make major savings in operating expenses and provide substantial relief for car supply problems.

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In boxcars, flats and gondolas, the long life of NAILABLE STEEL FLOORING means lower repair and replacement costs as well as lower operating costs. And because it holds nails tighter and won't splinter, goods are safer on NAILABLE STEEL FLOORING. It saves you money in three ways—in operations, maintenance, and damage claims.



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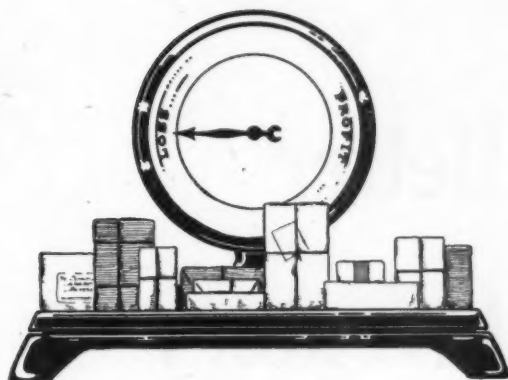
STEEL FLOOR DIVISION, PENOBSCOT BLDG., DETROIT 26, MICHIGAN
UNIT OF NATIONAL STEEL CORPORATION

The Cost of Small Orders

By D. W. NORTHUP

President

Henry G. Thompson & Son Co.



IN PRESENTING methods which have been used successfully to reduce the cost of distribution, I want to emphasize particularly that these cost reduction methods were used in the industrial supply field—that is, by industrial distributors through whom is channelled yearly almost 2.3 billion dollars worth of production and maintenance supplies to American industry. It is the industrial distributor who carries the large bulk of the maintenance supply inventory for immediate industrial use, and it was the industrial distributor who, through the war, procured from many sources of supply these same materials which were so essential to the constant and efficient operation of all war production plants. In addition to rendering vital technical services, industrial supply distributors have always warehoused and distributed manufacturers' products to consumers at the lowest net cost to consumers of any commodities of which I am aware.

Statistics show that the overhead cost of industrial distribution has increased out of proportion to the increase in prices to consumers. Therefore, manufacturers and distributors are confronted with the problem of reducing distribution costs for the purpose of attempting to hold consumers' prices at their present levels. Over the course of years

in the field of industrial distribution, three practical steps have been taken that have led to actual cost reductions. Surveys were made to determine:

1. What could be done to further reduce the cost of distribution in the industrial field.
2. What particular elements in the cost of distribution showed the greatest promise of cost reduction.
3. What practical and immediate steps could be taken to reduce the highest cost factors.

Starting in 1936, and in several subsequent years, surveys have been made to ascertain just what products were purchased through industrial distributors, the volume of this business, and the size of individual orders placed by industrial consumers. One of the startling facts disclosed by these surveys is that not less than 40 percent of all the orders handled by industrial distributors, and consequently placed by industrial consumers, were for five dollars or less. Every one of these orders was placed at a high cost to the purchaser and sold at a loss by the distributor. The cost of handling and placing these small orders was a large percentage of the value of the order, as I shall show later. It is recognized that small orders are inherent in the industrial supply business, and there is no practical price which could be placed on small orders

American business must get out from under the intolerable burden of profitless small orders . . . The methods for realizing this end, outlined in Mr. Northup's study, fall into two major categories: 1. The formulation of new pricing policies in which prices for broken package lots are revised on the basis of actual handling cost to bear their proper proportion of profit burden. 2. The systematic costing of small orders through the cooperation of distributors.

that would eliminate the distributor's loss. A change in purchasing methods, as well as some way of lowering distribution costs, had to be found if these losses were to be reduced for consumers and distributors. The study of the small order loss problem, as it was finally termed, led to a further study of the cost of distributing specific products.

When it was found that the handling of small orders by distributors and the placing of such orders by the purchasers was done at a high cost, it became evident that certain products, by their very nature, caused a greater number of small orders than others and consequently a high cost of

(Continued on Page 66)

Address before the 1948 Washington Conference of the American Marketing Assn.

Better Inventory Control



Photo: Ewing Galloway

Inventory handling costs, admittedly too high, can be kept down through the coordination of three sub-divisions of management: materials handling, office procedure and storage . . . Effective systematization is important in deciding the part each should play in the overall picture.

By FRED MERISH, *Special Correspondent*

THE cost of handling inventory runs high. Usually one of the largest single items on the balance sheet, its adequate control is vital to the success of any concern, and this control is largely a matter of mechanized coordination in these three sub-divisions of management:

1. Materials handling.
2. The office.
3. Storage facilities.

Many managements do not attain adequate inventory control because they do not coordinate

these three sub-divisions properly. Too often, their only concern is the dollar value of stocks on hand, whether it is increasing or decreasing. In times when business is booming and materials are hard to get, the higher the value of inventory, the more secure they feel. When business begins to taper off, they make an effort to cut inventory down to size. In other words, to see that its ratio to other assets on the balance sheet is not too high for comfort.

The first step toward adequate

inventory control is a conference among the materials handling manager, traffic man, the man in charge of stores, the office manager and cost accountant. Around the conference table these executives can plan for the most effective coordination of materials handling equipment, office routine and storage facilities. There are five objectives to shoot at when planning this coordination: increased handling speed, more space, lower labor costs, greater accuracy in recording inventory, immediate in-

formation about the details of stocks on hand vital to the successful operation of a business. To attain these objectives may require a plant survey, an analysis of experience records on costs and output, an appraisal of the equipment or housing facilities used in connection with inventory control and a projected plan for revising or adjusting the operational factors in the three sub-divisions to get maximum results.

Many case histories and field studies attest to the importance of materials handling equipment in the adequate control of inventory. Through the replacement of old units with more modern ones or the better coordination of existing units from raw stores to finished stores, or an extension of handling facilities, managements have been able to reduce the cost of handling inventory as much as 60 percent.

In one plant where in-process time ran high, an order would be in production for a considerable period because the handling equipment and the routing of materials from raw storage to finished stores were far below par. The departments were continually off-schedule because material movement was badly synchronized, bottlenecks were frequent, production lagged. As a result, orders were never filled on time and it was necessary to keep large sums tied up in raw storage stocks, in-process inventory and parts for assembly that had to be paid for before the goods could be billed to the purchaser. The management conducted a materials handling survey and invested in conveyors, an overhead system, lift trucks and other adequate units, which resulted in a 25 percent step-up of production. In-process time and inventory investment were reduced, and the orders were finished the same month that payment was due on the raw materials. Thus the management no longer had to keep large sums tied up in raw materials and semi-finished goods, which released working capital for prompt discount of bills and other practical purposes.

Too few managements realize that all elements in business operation mesh like gears in a differen-

tial housing. When one gear in the business machine begins to grind or gets out of line, it affects all others to the detriment of profit and management's peace of mind.

Before the war the cost of housing inventory ran as high as 25 percent of distribution cost. Because construction costs have pyramided, the cost of housing inventory today may exceed 40 percent in some plants. It depends upon the size inventory needed to keep a business operating satisfactorily. At any rate, one can safely state that the cost of housing inventory has increased substantially during the past five years, compelling management to utilize every available foot of storage space. This can be done most economically only when the handling equipment is properly "tailored" to the job.

In one plant where cases were the handling units, hand-lift trucks were the motive power from production to company warehouses,

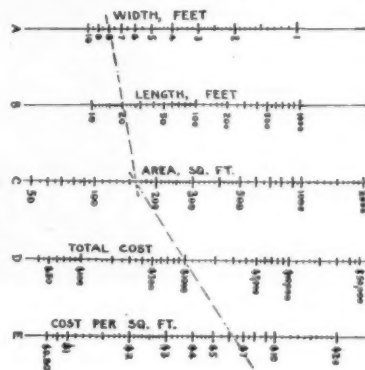
the units loaded on trucks, then stacked by hand in stores. When the goods were shipped, the cases were again hand-stacked on the trucks and pushed to the motor carriers, which were loaded by hand. Power trucks and pallets replaced the hand operations. The incoming loads were stacked mechanically in the warehouse and the outgoing shipments were placed on a conveyor, which took the cases to the carrier. The management increased storage space 30 percent, stepped up handling speed 200 percent and cut the cost of handling inventory about 50 percent.

Storage costs can be charged equitably only on a cubic foot basis and in many warehouses where the handling equipment is inadequate or hand-stacking is used, the "store" space is limited to floor space. Overhead handling systems, tiering machines and pilers can utilize the space from the ceiling down to stock-pile height, increasing cubic capacity, which, if figured in dollars and cents, will more than pay for the installation, speed up handling of finished stores and cut inventory handling costs substantially.

A lot of aisle space goes to waste in many warehouses because the handling equipment is inadequate. This is particularly true where heavy loads are warehoused. The right kind of equipment permits the precise spotting of heavy loads so that aisle space that once went unused can be filled with stock. When space is wasted in the storing of finished inventory, the cost of production as well as the cost of handling inventory is higher than it should be. These gears must mesh or coordinate properly. The more units produced in a given period, the lower the cost per unit, because fixed overhead is the same at all levels of production; and if management is hard pressed to find a place to store production because space is wasted, this tends to throttle output. During the war and early postwar years when goods moved rapidly to market, this wasn't much of a problem, but the pipelines in many fields are beginning to fill up and space is at a premium because of

(Continued on Page 42)

How Much Per Square Foot?



BY consulting this chart, the distribution executive can tell at a glance the cost of floor space, partitions, advertising space, etc., per square foot. For example, he may be renting a small display space, 8 x 20 ft. The floor area is 160 sq. ft., the rent is \$1,000 a year, and so he is paying \$6.25 per square foot. The dotted lines run across the chart tell the story graphically. A straight line through the length and the width shows the area, and the line from the area through the total cost shows the cost per square foot. The chart will answer any problem of this sort, simply by adding ciphers for larger numbers. After computing the cost per square foot of his office or display or warehouse space, the distribution executive may find that an unused chair, or desk or table is using up several square feet, representing a substantial cost, which could be saved by better utilization of that space.—W. F. S.

WHO SHOULD PAY FOR PACKING ?

Should the buyer or the seller pay the costs of packing and crating when specific packing agreements are lacking? Major Saperstein discusses the advantages of well defined packing policy and outlines methods for its attainment.

By CHARLES L. SAPERSTEIN
Packaging Consultant



Should the merchandise buyer be charged for this special packing, plus a mark-up, or is this an operational cost?

APPARENTLY there is little agreement among companies as to where responsibility belongs for the costs of packing and crating merchandise which has been purchased without any specific packing agreement. Should the cost of such packing be considered a separate transaction for which the buyer should be charged, plus a mark-up for profit? Or should the idea of profit be dropped entirely and charges be based only on actual materials and labor? Should the seller absorb a part of the expense

on the premise that some packing service is due on every transaction, in any event? Or should cost of packing and crating, no matter how unusual, be a part of general cost of business and nothing extra added to the sales price of the merchandise or the service?

Naturally, there can be no one positive answer to these questions. The furniture dealer who delivers his merchandise by truck could not be expected to crate a bedroom set for rail shipment without compensation. This is a preparation job for warehousemen and

transfer firms equipped to safeguard household goods. By the same token, the furniture manufacturer, whose list price allows for delivery in paperboard crates would find it impossible without some additional compensation to come out profitably if the buyer wanted to ship to the orient and requested export crates and special safeguards against deterioration.

On the other hand there is sometimes a definite advantage in assuming the complete packing and crating responsibility for every

shipment leaving one's plant or warehouse. This is the policy of successful department stores, mail-order houses and other merchants.

In such practice, an occasional order may result in greater expense for packing than was originally anticipated in the selling price. On the other hand, there are many instances where packing costs will run less than anticipated. The customer who carries away his own purchases; the lot that requires no markings or stencilling; the delivery that is re-shipped in its original case—these are typical of the many unexpected economies. Therefore, the shipment with excessive packing costs may be offset by others on which there are savings.

There are, on the other hand, far-reaching merchandising gains in automatically preparing shipments for safe-arrival, regardless of the conditions imposed. First, it builds the reputation of the particular manufacturer or firm as a safe, dependable house with which to deal. There is a warm quality in knowing one is dealing with a supplier who delivers every shipment adequately packed. Goodwill and repeat orders flow inevitably towards the shipper who has learned the value of making good-packing a part of the cost of doing business.

Another advantage is that in absorbing all packing expense, the shipper is in position to establish the best method of packing to insure safe arrival—a policy that results in a minimum of claims. Recently, a good illustration of this point was brought to my attention. An exporter purchased at list price several thousand cases of a certain grocery product for shipment to an oriental country. The confirmation of the order to the exporter showed an unexpected charge of 15c. per case, imposed by the packer "For export packing and marking."

This charge happened to coincide with the exporter's total margin of profit, a fact which made negotiation necessary. The result is that this shipment is currently going forward in a domestic corrugated case instead of in the water-resisting solid fibreboard

box which the packer knew to be desirable. Instead of the wire-strapping originally planned two strands of light wire are used. For this reduced service the packer is asking only 5c. per case and the exporter has agreed to make no claims for inadequate packing. The food packer may also feel it will be the exporter's misfortune if a customer is lost. However, the food product is from the manufacturer of a well-known brand and the real loss will be the lack of confidence in that brand which can be created from cases which have failed, or cans which have become dented, while in ocean shipment. Remember, the shipper establishes packing standards only if he foots the bill.

A logical position for all industry is to say in effect, "either now or ultimately, the whole world is my market. To win my market, it is necessary for me to lay my goods down consistently in good order, regardless of where the buyer may be located. It is true that my plants and distributing warehouses are physically located only in so many places. I cannot discriminate against the buyer who happens to be most distant from me. He is already at a disadvantage in having to pay greater transportation costs. If he still likes my merchandise enough to order from me, I shall do my part by packing so that my products will reach him in good order.

The question arises as to what should be done about packing and crating when the buyer knowingly purchases "spot" or "as is." Several factors may enter such a situation. Is it a transaction where the element of good-will can lead to additional sales? It is a type

of sale in which custom and precedence logically prescribes adequate packing? Will the seller insure himself against claim for goods being received in bad-order if he supervises the packing? Naturally, if a boiler or any other salvaged merchandise is purchased from a house-wrecking organization, custom prescribes that the buyer pick-up and remove. But if the answer is "yes" to any of the above questions, then it would seem logical that the seller arrange for packing and crating without expense to the buyer.

A good way to clarify responsibility for good packing,—except, of course, in exceptional circumstances—is for the seller to base his decision in the matter on whether or not a transaction is F.O.B. The term F.O.B. (or the equivalent terms used in export, such as F.A.S. or C.I.F.) means free on board. Irrespective of whether the terms are F.O.B., sellers shipping point or plant, it is the seller's obligation to see the shipment safely aboard the box car, truck or other carrier. Since no carrier will accept freight inadequately packed to withstand shipment, the seller is not honestly making good his "F.O.B." quotation unless he completes at his own expense the packing and crating necessary to loading the shipment on board the carrier. If not a legal requirement, it is a logical conclusion that the seller has the responsibility for adequately packing and crating without attempting to pass all or part of this cost to the purchaser.

Quite often a difference of opinion between seller and buyer will arise in respect to what constitutes adequate packing preparation. For example, the seller of a piece of heavy outdoor machinery may sincerely feel it can be shipped without any preparation or at best, bolted to a base. The purchaser may feel that without some packing the machine could be damaged in transit and demand a full packing case. In this instance, it would seem advisable that an outside shipping or forwarding authority should be consulted and his counsel accepted as final. If he is inclined to favor

(Continued on Page 71)

Trailer Saves on Packaging

A specially designed trailer which is guaranteed dustproof is eliminating the need for wrapping and packaging textiles and other raw materials for inter-plant shipment in a southern silk mill. It is also much lighter than conventional vans, resulting in lower shipping costs. Another new trailer is the insulated, stainless steel type, three of which are owned by a candy firm in the Midwest. The insulation keeps the candy fresh throughout long journeys to markets, enabling production to increase. Both types are manufactured by Fruehauf Trailer Co.

Home-made

SHIPPERS long have hoped that present commodity rates imposed on pallets by the carriers would be lifted and pallets treated as dunnage, but this hope seems blasted by Rule 11, Consolidated Freight Classification No. 18, which continues to impose penalties for the use of pallets, skids and platforms in transportation.

Rule 11, effective July 1, specifically states:

"... When articles are transported loaded upon pallets, platforms or skids, such pallets, platforms or skids must be furnished by the shipper at his expense, and the weight thereof will be charged for at the rate applicable on the freight loaded thereon"...

There is need for concerted action on the part of pallet manufacturers, shippers and materials handling equipment producers to combat the seemingly non-cooperative attitude of some of the carriers to the use of pallets in transportation... One of the reasons for this lack of cooperation, as Mr. Hastings points out, is the continuing use of makeshift pallets in transportation.

Why, he asks, do companies that spend thousands of dollars for modern materials handling equipment resort to the use of flimsy, makeshift pallets in transportation when efficient, commercial products are available for use as an inherent part of their handling systems?

This shortsighted policy, he states, is not only creating actual carrier antagonism and increasing the cost of distribution, but it is making it easy for equally shortsighted carrier interests to justify rulings such as Rule 11, CFC No. 18.

PALLETS today are accepted as indispensable adjuncts to efficient intra and interplant handling. But use of palletized loads in transportation has been seriously retarded by various factors, the most serious of which is lack of full carrier cooperation.

While it is true that the railroads and other carriers have endorsed *in principle* the use of pallets in transportation, the fact remains that *in practice* they have introduced a serious deterrent to the general use of palletized shipments through their refusal to treat pallets as dunnage. If this condition is to be remedied, certain basic things are necessary:

1. Pallets, skids and platforms, upon which commodity rates are now specifically imposed under Rule 11, Consolidated Freight Classification No. 18, effective July 1, 1948, must be treated by the carriers as dunnage, and the carrier freight charges on empty pallets must be reduced.

2. Shippers must cooperate with the pallet and materials handling equipment producers in aggressively promoting the use of pallets, skids and platforms in transportation.

3. Shippers must replace the flimsy, makeshift pallets which too often are used in transportation with pallets of

Pallets and Rule 11

Rule 11, Consolidated Freight Classification No. 18, which became effective July 1, blasts shippers' hope that the carriers would accept pallets, skids and platforms as dunnage . . . The use of improvised makeshift pallets in transportation, Mr. Hastings believes is partly responsible for the continuing carrier non-cooperation.

By **EDWIN CHESTER HASTINGS,**
Special Correspondent

proper design and construction.

4. Shippers must make sure that the receivers of palletized shipments have the necessary equipment and facilities to handle unit loads efficiently and economically.

Of course, other factors enter the picture: for example, lack of standardization in pallet and carrier body sizes, inadequate carrier floor load capacity, etc. But the economic pressure that would result from a well-organized shipper demand for a greater use of the unit load principle in transportation would tend to remove all such handicaps and bring about more standardized equipment and techniques.

Whether or not this demand will develop remains to be seen, since many shippers are currently manifesting a singular disregard of one of the most fundamental needs of palletized load shipping; namely, that suitable pallets be used. The use of flimsy, home-made pallets in transportation by many shippers who should know better is doing the materials handling equipment industry and distribution a disservice.

Why do companies that are willing to spend thousands of dollars for modern materials handling equipment resort to the use of flimsy, home-made pallets in transportation when efficient commercially-made products are available? This short-sighted policy not only

creates carrier antagonism and adds tremendously to the overall cost of distribution, but it makes it easy for equally shortsighted carrier interests to justify rulings such as Rule 11, Consolidated Freight Classification No. 18, which imposes, in effect, penalties for the use of pallets in transportation. When the great benefits that would accrue from pallet use to both shippers and carriers and to distribution are taken into consideration, this "penny wise and pound foolish" attitude on the part of shippers seems incomprehensible.

A traffic manager of a motor carrier in contesting before the ICC a petition for a lower rate on the return of empty pallets felt justified in stating: "The things (pallets) fall apart; they are a hindrance in transportation, and the trucking company has been put to extra expense to reload merchandise on something more substantial." Doubtless, this traffic manager had specific experiences in mind, but it is manifestly unfair to condemn an entire industry for the breakdown of flimsy, crudely constructed pallets when properly made commercial pallets, which will withstand any crucial test, are available for use as an inherent part of any materials handling system.

Another specific example of this "penny wise and pound foolish" policy on the part of some pallet users comes to mind. An indus-

trial plant in the South manufactures heavy motorized units. Pallets are used for intraplant movement, but much dissatisfaction became apparent among the workmen involved in this movement. An investigation revealed that the workmen's opposition arose from the fact that the pallets in use were crudely constructed "saw and hatchet" affairs. Scrap lumber and rusty, various-sized nails had been used, and to make matters worse, no attempt had been made to cut the lumber to measurement. This particular plant is a branch operation; products in a semi-finished state are shipped via a fleet of company-owned trailer trucks to a plant in another state. The drivers of these trailers are vociferous in the denunciation of the pallets used.

Modern materials handling equipment, costing thousands of dollars, used with home-made, flimsy, makeshift pallets, thrown together by unqualified workmen in their spare moments, makes an utterly incongruous picture. Cast-off material will not do for pallet construction. Pallets which are subjected to heavy loads as in the example just cited must be made of the best hardwood lumber and held together with hardened steel nails.

Shippers long have hoped that the present commodity rates imposed on pallets by the carriers
(Continued on Page 70)



REGULATION or REGIMENTATION?

Where does one end and the other begin in the field of highway transportation? . . . Unlike the railroads and other public utilities, motor carriers, Dr. Asher believes, cannot function efficiently under a government-imposed rate structure.

By FRANK E. ASHER, Ph.D.

THERE is no axiom which under close scrutiny does not call for certain qualifications. Each economic dogma, be it ever so well founded upon seemingly unflinching facts and figures, is exposed to qualifying and restraining corrections. This common truism will remain valid if applied to the principles to be used in assessing proper rates and charges for common motor carriers. After careful examination of the basic laws governing the economics of the common motor carrier industry, we have accepted the *operating ratio* as the leading and controlling element in the establishment of just and reasonable rates.¹ This became particularly evident as we compared this industry with the corresponding

characteristics of other common carriers or public utilities. We shall now have to investigate whether this statement will stand up against a formidable array of criticism caused by the economic and managerial peculiarities of this somewhat ambiguous industry. Many of the arguments advanced against the use of the operating ratio take their ammunition merely from the fringe of the operational and the economical sphere of the trucking industry. Yet they have been presented so forcefully to the public that they are well worth a close examination for their correctness, their validity and their weight.

These are the principle arguments offered and emphasized with a varying degree of intensity:

The motor carrier industry (common carriers for hire) is

composed of such heterogeneous elements that no sound basis can be gained by using averages of performance or profits.

Unusually substantial profits are reinvested into the industry, which is allegedly built and developed with funds raised from overcharging the public.

Owners and/or officers draw excessive salaries, thus reducing the legitimate net return of their respective enterprise.

Federal agencies should determine how many of the most efficiently managed carriers are needed to satisfy the current demand for this form of transportation. Their policy of admission into the industry and the level of rates pre-

¹Ratios, Rates and Reason. DISTRIBUTION AGE, Aug. 1948.

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scribed should be geared accordingly.

The Law of Averages

In the regulation of public utilities proper, like electric utility companies, gas companies, etc., the regulatory agency deals as a rule with a single unit enjoying a practical monopoly in a clearly defined territory. The performance of a single enterprise may be examined easily. It is then compared with other companies working under substantially similar conditions. Finally, its rate of return in combination with the operating ratio, used only as a yardstick for efficiency, provides sufficient evidence for a just and reasonable assessment of rates. Not so railroads, motor carriers, or any other common carrier subject to the Interstate Commerce Act! Very few of them exercise a practical or technical monopoly. Most of them operate in overlapping territories. With very few exceptions, they produce a large variety of services: they handle diametrically different types of commodities, they traverse regions with widely varying topographies and climates, they operate under continually changing conditions of labor, supplies and traffic flow. In short, the

regulating agencies will never be confronted with the relatively simple task of examining the properties of one integral public utility enterprise. The agencies regulating common carriers will always have to deal with a multitude of operational units, of criss-crossing franchises and of numerous interlaced enterprises.

To cope with this rather unique situation, no other method has yet been devised but the application and the use of *averages*. We are only too well aware of the deficiencies of this method. Conclusions gained, rules established and rates constructed on the basis of an industry-wide average will never do justice to every individual member of the industry. It is evident that in the case of rate increases the application of averages will always favor the better managed or more fortunately located enterprises and leave the weaker ones at a disadvantage. We all know very well that such across-the-board rate increases may produce more than the required increase in income for some carriers and still leave others in the red. This holds true for railroads, motor carriers and for every industry subjected to similar methods of regulation.

But would, for instance, the principle of the "median carrier" cure that evil? The "median" is obtained in a somewhat mechanical way by arranging the ratios of all the carriers of a certain territory in order of their magnitude. The figures of the carrier whose position is in the center of this numerical order will be considered as the "median" and used in lieu of the true mathematical average. Does this method offer us any fundamental advantages? Certainly not. We would subject ourselves to the hazards of fortune. The carrier thus elected may be as unrepresentative of the industry as possible. Its geographical, operational and traffic conditions may differ vastly from those of representative carriers of the region. He may be favored by a preponderance of heavy and regular shipments of one bulk commodity, or he may be penalized by a wide variety of small freight. He may—to speak of motor carrier experiences—handle a small number of commodities of high density in a well balanced traffic, or he may be plagued by a multitude of irregularly moving and low-rated articles.

Should we go one step farther, it may happen that all the carriers
(Continued on Page 40)

TABLE I. Financial Ratios of Different Types of Motor Carriers

	Reference to Table I	Common Carrier Gen. Commodities Class I 1946	Carriers of Property Common & Contract Class I 1945	Common Carriers of Property Leased Equipment Class I 1945	50 Selected Carriers Middle Atlantic Territory 1946	Common Carriers of Property Class I Own Equipment 1945	Contract Carriers Own Equipment 1945	Common Carriers Special Commodities Own Equipment 1945
Total Assets	1:3	38.09	36.6	12.1	38.18	37.49	46.19	50.82
OPERATING REVENUE in relation to:								
Total Operating Expenses before Federal Taxes (Operating Ratio) ..	10:3	96.47	99.9	100.1	97.42	100.43	97.19	97.93
Net Income before Taxes	16:3	3.53	.22	.31	3.52	.79	3.01	4.17
Net Income after Taxes	19:3	2.36	.30	.79	2.63	1.09	2.06	3.22
Long Term Debts	21:3	7.36	5.62	4.25	6.28	6.47	6.32	5.01
Capital Stock	20:3	10.58	12.11	7.02	6.89	12.71	16.97	19.71
Total Surplus	22:3	5.11	4.58	2.99	11.89	3.94	8.54	9.39
Net Worth	23:3	15.69	16.69	10.02	18.77	16.65	25.51	29.11
RATE OR RETURN on Net Investment in Operating Property (before Taxes)	16:2	18.87	.94	.57	18.30	3.76	13.58	19.85
RATE OF PROFIT to Capital Stock								
Before Taxes	16:20	33.36	1.83	4.35	51.08	5.50	17.72	21.17
After Taxes	19:20	22.26	2.46	11.18	38.22	8.60	12.11	16.31
NET RETURN on Net Worth	19:23	15.01	1.79	7.85	14.02	6.57	8.06	11.05
Operating Income in % of Net Operating Property	12:2	20.43	.93	.98	19.99	2.25	12.65	9.78
LONG TERM DEBT in % of:								
Net Operating Property	21:2	39.32	33.86	39.85	32.67	34.78	28.53	23.82
Net Worth	21:23	46.88	33.59	42.26	33.45	38.85	25.01	17.21
Total Assets	21:1	19.31	15.36	35.06	16.45	17.25	13.87	9.85
Net Worth in % of Capital Stock	23:20	148.29	137.8	142.40	272.59	130.98	150.30	147.65

Source: ATA Department of Research; ICC; Secretary of Agriculture, Exhibit MC-L-882.

DESIGN

GOOD PAYS OFF

Industrial design can make or break a product at the point of sale through errors of commission or omission . . . Mr. Dreyfuss discusses basic rules of product design.

IT IS axiomatic that good industrial design is a silent salesman. Manufactured articles must speak for themselves to prospective buyers. The kind of "built-in" sales appeal that makes a customer's hand itch to put the object into use often pays dividends also in simplified distribution practices.

Perhaps a good case in point is the Big Ben clock on which our office worked. When we were first consulted on the problem, the clock was being marketed in a variety of colors. This meant that distributors and dealers had to maintain stocks of all colors in all models to avoid disappointing customers. Our studies revealed no advantage in offering the clock in so many hues, so we suggested that the finish be

limited to two choices, a dark gun-metal and ivory. At the time, such a step was considered drastic, but subsequent sales proved that the clock in either of the two finishes would look well in any surroundings. The change also had the advantage of permitting reduced in-

ventories, and consequent savings, all along the distribution line.

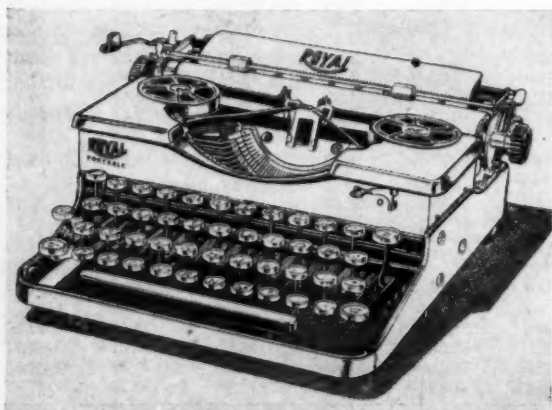
The utility of the clock was also improved. We discovered that the winding key could be improved so that it would not break a woman's fingernails. We also redesigned the dial for easier reading.

By HENRY DREYFUSS

Industrial Designer



Royal Portable before redesign.



Royal Portable after redesign.



The life of an industrial designer, actually, is one of eternal tinkering and experimenting with such details of function. Because he must always be interested in the consumer, he must seek answers to the questions: Who will use this object? Is it efficient for his purposes?

Beauty vs. Function

A sound precept in industrial design is that the utility of a thing lends a certain beauty to it. If everything were completely functional, we wouldn't need design.

In working out the design for an object, a vacuum cleaner for instance, the industrial designer must first be concerned with the limitations of size and shape imposed by the engineers, and second, with the ease and economy of production. But always he comes back to the point of sale for his final answer. He frequents large department stores, where several competing lines are displayed. He asks himself, "What makes people buy one rather than another?" By patient research, he is able to design selling arguments into the product. Such design helps make up for what the salesman does not know or fails to get across effectively to the customer.

Designing the vacuum cleaner for the Hoover Co. presented some interesting problems. One was to impress the buyer with the usefulness of the attachments, which determine, to a large degree, the utility of the machine. Manufacturers formerly dumped them into the box which held the cleaner. It was not long, of course, until they became misplaced, lost or damaged. We solved the problem by packaging all the loose parts in an attractive kit to be hung inside the housewife's closet door. Each attachment was instantly available, and directions for use were printed on the kit.

One of the criticisms of the tank-type vacuum cleaner was that the metal runners left marks on carpets. We suggested attaching the runners at an angle so that the marks would be erased as the machine was drawn across the floor.

Another improvement, we felt, was the provision of two handles so that the redesigned cleaner could be carried in the horizontal or vertical position.

When we were working on the vacuum cleaner and a companion product, an electric iron, the company wanted a distinctive touch to identify its line. A white spiral on a dark brown background was chosen for use on the electric cord of the iron and on the attachment tube of the cleaner, giving them a family resemblance. For both of these appliances, we also designed a new type of plug in the shape of a clip to hold the coiled wire together when not in use. The clip also provides an easy grip in disconnecting the electric plug from the wall socket.

The redesigning of the Royal typewriter is a good example of the painstaking research job of the industrial designer. We measured the fingers of hundreds of typists in order to work out the correct size, shape and positioning of the keys for the greatest ease of operation. We also turned up the fact that speedy typists have the habit of hitting the space bar with the heel of the hand. This sometimes results in pinching tender flesh between the space bar and frame. So we enlarged the space bar and set it flush into the frame.

User Comes First

A source of typists' headaches was eliminated by replacing the traditional shiny black surface of the machine with a dull wrinkle finish that does not reflect light into the eyes. This finish also effected a saving in manufacturing cost by reducing the number of parts rejected because of minor surface defects in the metal castings.

The Ansco camera also illustrates the value of good design all along the line—from economy of production through distribution and sales, to ultimate usefulness to the buyer. In this project, every element was important because of the highly competitive nature of the camera field. The camera in question was designed to sell at a low price, which made it a natural

for the use of amateurs and children. Simplicity of construction was the answer both to economical production and easy operation. To enhance sales appeal, the camera was designed in the shape of an expensive model, although it functioned as an ordinary box camera except for a wide, easy-to-use view finder. Addition of a plastic carrying strap further contributed to the appearance.

Color Aids Sales

In this case, we made the package do a sales job by using a striking red and blue color combination. The size of the picture made by the camera, $2\frac{1}{4}$ by $2\frac{1}{4}$, was made clear to the purchaser by means of a printed illustration on top of the box.

The result was that the camera not only was obviously easy to use, but was easy to sell because it looked better than others in its price range.

Next to form, the individual designer relies on the use of color to achieve greater utility and sales appeal. He should be a close student of the psychology of colors and their effects on the people who use the products he designs. In some cases, of course, certain colors are traditionally associated with objects, and it is difficult to change public acceptance. Cameras, for instance, are almost always black—but that, too, will change in time.

Factory machinery also used to be black. Now that cleanliness and orderliness are recognized as aids to production, gray has become a standard color for machine tools. Still other colors are used in machinery, equipment, walls and floors. This relieves eye strain, prevents monotony, and promotes safety.

It should be remembered, though, that colors should not be changed just to make things look different. There should be a practical reason. A color must be tested for its effects on people, for cleanliness, and for resistance to wear, fading, and the results of weather.

(Continued on Page 79)



New Distribution Service

Numerous public warehousing organizations offer customers distribution services equivalent to branch operations, but the Griffin-Continental Corp., functioning on a semi-cooperative basis in the Chicago marketing area, carries the "branch operation" idea a step farther to include raw material procurement and production, in addition to storage, field warehousing, packing, packaging, transportation and sales promotion.

By RANDALL R. HOWARD
Special Correspondent

MANY managers of medium-size companies which distribute specialty products will watch with interest the development in Chicago of a program which is said to represent some "basic new ideas" in local and regional distribution methods.

It is a program whereby a group of companies with somewhat similar distribution needs are able jointly to utilize the semi-cooperative services of a single local warehousing and packaging plant. In Chicago, this servicing setup is being provided by the Griffin-Continental Corp., which has been gradually developing a rounded program over a period of three years and is now serving eight

different "accounts" with out-of-Chicago headquarters.

The Chicago setup is planned to provide for each of these eight companies essentially all of the advantages in Chicago area distribution which they could expect to gain through the establishment of individual company-owned branch plants. Thus each company has escaped the need of the investment outlay and the operating responsibilities of such a branch plant. Also, there is promise of immediate financial gains through: 1. Cutting of materials buying and freight assembly costs. 2. Savings in final processing and retail packaging. 3. Sales increases through ability to make more prompt local customer deliveries.

The spark-plug in this new Chicago program to improve specialty distribution methods is Alfred Griffin, youthful president and general manager of the Griffin-Continental Corp. He believes the program is especially adapted to the branch-plant distribution of food, drug and cosmetic products. He argues that the plan is a natural follow-up development of the decentralization trend in the United States during the past ten years by many large industrial companies. The trend has included the development by these companies of many branch plants, or in the same direction, the acquisition of additional going unit plants, spotted at or near transport-

(Continued on Page 77)

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Special L. C. L. Problems



By MATTHEW W. POTTS

Materials Handling Consultant

While all l.c.l. freight cannot be palletized because of its heterogeneous nature, Mr. Potts believes that the planned use of more modern equipment and techniques would result in substantial economies and greater overall efficiency.

THE handling of l.c.l. freight at transfer points and in local freight houses is a source of considerable discussion. The need for greater efficiency is apparent because, in most cases, hand truck methods still prevail despite the fact that more packages, and larger and heavier packages, are being handled today than in the past.

Surveys have been made to ascertain if l.c.l. freight could be handled by means of pallets and fork trucks, and much has been written advocating the use of these devices. The proponents of such schemes have presented a fairly comprehensive report on the possibilities of more efficient handling of l.c.l. freight but the railroads, freight agents, and freight handlers still contend that they cannot palletize l.c.l. shipments. To a certain extent, both are correct. To try to completely palletize l.c.l. freight would not be justified because of the heterogeneous nature of the freight. Furthermore, some merchandise cannot be shipped on pallets even if strapped or bound.

The problem resolves itself in a better method of handling within the freight station or at the transfer point. There are certain commodities that can be palletized in such an operation, but they are in the minority. However, a

considerable volume of freight can be handled by means of fork trucks without being palletized. Such freight need not necessarily be large pieces, but it can be cumbersome or heavy; such items include air compressors, refrigerators, motorcycles, furniture and other crated or uncrated freight. This freight is handled by hand trucks. This involves considerable manual lifting and hauling from the car into the freight house. Such freight rarely stacks to make room for additional freight on the house platform due to the difficulty of lifting and lowering.

A few of the railroads have purchased fork trucks and have begun using them on miscellaneous l.c.l. freight within terminals. What is being accomplished in the terminals also could be accomplished in warehouses, by motor truck carriers and by others. The use of the fork truck permits one man to handle heavy, cumbersome units with ease and speed. Most of the fork trucks being used are of the one-ton capacity (15 in. out on the load arm), and also some two-ton capacity trucks (15 in. out on the load arm). These have been placed in operation, and have been found very advantageous because of the heavier loads they are able to handle.

When using standard fork trucks, a helper tips or blocks up

the cases. On some commodities, chisel type forks or steel plates can be used, but these have not been found to be generally satisfactory. Accessories are being developed which will further promote the use of fork trucks in handling l.c.l. freight and eliminate need for a helper.

One such accessory is a rolling wedge which is mounted on the fork truck in such a way that if the forks can get under the load and slightly lift it by tilting forward, the wedge will roll under the package. The truck then can further insert the forks and, by making one or more lifts, can completely raise the load and carry it without the need of a helper. This also permits easy stacking without the use of dunnage, and should prove very successful for crated items and large containers.

Another accessory is a "grab" which is hydraulically operated from the driver's seat. The arm spread varies from approximately 16 in. to 65½ in. Hydraulic pressure causes the arms to clamp the container and hold it in position for transporting, elevating or lowering. Various types of arms are available for handling drums and special containers.

Crane boom attachments which can be quickly removed from the forks also have been developed, and these are particularly helpful

in handling pieces that cannot be gripped between the grab arms or lifted by means of the rolling wedge. These crane accessories are easily attached to standard forks, thereby making it possible to perform all operations.

It has been found that, where power fork trucks have been applied to this type of operation, greater speed of handling is possible, thereby making for quicker unloading of cars, storing of freight, and reclaiming for loading on trucks. In the case of a transfer point, it is possible to transfer the load rapidly from one car to another, and with less man power than with hand truck methods.

A number of motor transportation companies have already found the use of the fork truck and other power-operated trucks of considerable advantage at transfer point platforms and at customer's platforms. At many of the local freight houses, fork trucks are brought to these points by shippers receiving or shipping in carload lots in those cases where plants are not located on railroad sidings. In some instances, the local freight agents borrow their customer's equipment to handle miscellaneous heavy pieces. Because of their ability to obtain fork trucks and similar equipment by loan, in the handling of certain units within the freight shed, the agents are becoming cognizant of the great possibilities of this type of equipment for handling miscellaneous l.e.l. freight. These agents themselves are making demands on home offices for the procurement of this type of equipment. Unfortunately since they cannot conveniently plan cost savings because of the variety of packages handled, top management in the railroad, motor-carrier and warehouse industries must plan the procurement of equipment and its proper use.

This represents the operations of the Quartermaster Generals Field Operation Branch, U. S. Army, the Bureau of Supplies and Accounts, U. S. Navy, when they first started to use fork trucks and other mechanical equipment in warehouses. They were soon able to justify this equipment, even in the smaller installations, due to its

efficiency for speedy handling, and because of the reduction in damage to materials being handled, also because of the elimination of accidents, and because of more generally satisfactory housekeeping.

Common carriers cannot afford to wait to work out this entire problem on paper. They are going to have to buy the equipment, try it and then secure additional equipment as required. L.e.l. freight can be handled by means of power fork trucks and other mechanical equipment, and now is the time for the railroads, the motor carriers and the warehousemen to start work on this problem.

As to the shipment of l.e.l. freight from lower case origin to destination, this will still be in a trap or consolidated car. It will be found that if mechanical equipment is used, the cars can be loaded and unloaded more quickly, thereby making them available for a greater number of payloads per

year. The equipment will speed up handling for customers all along the line, reduce damage claims, and make for safer operations.

Integrated Tow

Part of the Federal Barge Lines' program to modernize and streamline its equipment and services is the new "integrated tow," a complete 1,200 ft. unit, including special bow (actually the detached front half of the towboat), three small barges, one medium size barge and five large ones, and the towboat itself, the Harry Truman. These all fit together snugly to form one unit, reducing friction and drag in the water. The integrated tow will carry nearly 12,000 tons, the equivalent of five one hundred car trainloads.

The largest barges have small gantry cranes to remove their coverings. They will handle any type of dry cargo. Hatch covers may be removed and piled on the ends of the barges.

The integrated tow is expected to make better than 10 knots, which will enable it to make the trip from New Orleans to St. Louis, better than a thousand miles, in little more than a week, as compared to 12 to 19 days now.



Improved SoundScriber

Here is the desk model transcriber and soft speaker hearing device made by The SoundScriber Corp. It is the result of seven years' research, and is named the "series four." Features include: recording and playback heads, light beam indexer, winking light for volume intensity, flash-start motor and dynamic speaker. SoundScribers record on Vinylite plastic discs, and the secretary's machine is equipped with foot pedals for starting, stopping and backspacing.

BARRETT-CRAVENS
POWER-OX LIFT TRUCK



BARRETT-CRAVENS
POWER-OX LIFT TRUCK



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THE CONTRACT CARRIERS

By JOHN H. FREDERICK
Aircargo Consultant



The rapid growth of contract air carriers, who transport a substantial portion of the 60 million ton miles carried by non-certificated lines in 1947, necessitates regulation by the CAB for the overall good of the industry.

THERE are now four types of air transport service available to travelers and shippers: 1. the certificated common carriers of passengers, cargo and mail; 2. the temporarily exempt non-certificated common carriers of cargo; 3. the temporarily exempt non-certificated irregular common carriers of either passengers or cargo; 4. contract air carriers who handle cargo or passengers for hire on the basis of arrangements between the plane operator and particular patrons.

Until within the past few years there had been very little of this last type of service, but during this period, due largely to the availability of war surplus transport type aircraft, a considerable volume of contract air operations has been carried on. Such carriers are at present unregulated from an economic standpoint, but at the same time they receive no financial assistance in the form of mail pay-

ments, and their ability to remain in business depends upon whether they can furnish their customers a valuable service at a reasonable price. It has been difficult to distinguish between bona fide contract air services and those which have in reality a common carrier character, a situation which has caused difficulties both from a regulatory and competitive viewpoint to the detriment of the public and the air transport system.

A common carrier by air is subject to complete economic regulation under the Civil Aeronautics Act of 1938. Before a common carrier can begin or extend operations, it must secure the approval of the CAB, either through the issuance of a certificate of public convenience and necessity, or exemption from that requirement. It must file tariffs, must adhere to them, must refrain from discriminating in fixing charges and must not grant rebates. All common carrier rates are under constant

supervision by the board and may be suspended and changed if the board determines, under statutory standards, that they are not fair and reasonable. Common carrier accounts must be kept in accordance with CAB regulations and are always subject to inspection and audit. A common carrier must also file periodic reports covering financial and operating details. All of this regulation applies only to common carriers. Contract carriers, on the other hand, are subject to nothing more than minimum safety regulation and no economic regulation at all. Thus, under present law, a contract carrier may, without the approval of the board, haul passengers and goods between any two or more points in direct competition with the certificated airlines. In other words, contract carrier rates and competitive practices are completely unregulated.

The Civil Aeronautics Board
(Continued on Page 49)

You can't afford an earthbound business!



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AMERICAN AIRLINES *Airfreight*

In this buyers' market, you can streamline your distribution and reduce marketing costs through regular use of American Airlines Airfreight. By cutting shipping time to *hours* instead of days, manufacturers can meet day-by-day demand without burdening outlets with cumbersome inventories . . . retailers can sell a complete line with a minimum of stocks on hand . . . fast-moving items can be replaced *overnight* . . . retailers and manufacturers can obtain quicker

capital turnover through faster merchandise turnover.

Through the elimination of many "hidden distribution costs," Airfreight can make shipping more economical, in many cases, than slower means of transportation. Whether you're a shipper or consignee, you can't afford to overlook this great opportunity for economy of operation — by using American's Airfreight on a day-in, day-out basis.

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GENTLEMEN: We are interested in your AIRCONOMY PLAN and would like to find out how it applies to our business.

NAME OF FIRM _____

NAME OF INDIVIDUAL _____

ADDRESS _____

TYPE OF BUSINESS _____

REGULATION OR REGIMENTATION

(Continued from Page 29)

on one side of the "median carrier" represent only a small part of the total traffic under examination, if converted into ton miles or into operating revenue. However, all the underprivileged carriers, namely, the applicants on the opposite side of the "median carrier" may account for the bulk of ton miles or operating revenues. Would any conclusion drawn from the ratios of the "median carrier" be even modestly adequate? Would it come within even arm's length of a just appraisal of the revenue needs of a majority of the carriers under investigation?

Nobody, of course, would be so dogmatic as to rely upon the method of averages without serious doubts and practical reservations. First, additional material will have to be consulted for the examination of rates for specific commodities between clearly defined territories or destinations or for a group of specialized carriers. Exemptions may have to be constituted if too extravagant losses or profits for individual carriers would result from the adoption of general rate adjustments. The elementary laws of mathematical averages imply that figures should not be counted but weighed. We shall not rest our case for rate increases on the assertion alone that 30 or 40 percent of all carriers are in the red—although this argument, too, cannot be disposed of

lightly. The crucial justification will have to be founded upon the consolidated returns of the entire industry or a substantial part of it at least. If the motor carrier industry as a whole ekes out a frugal existence on an easily shaken operating ratio of 97 to 99 percent, if their profit and losses jump from one year to another from minus four to plus 15 percent, something is unsound, unstable and in need of corrective measures. If the same symptoms are typical for a substantial group of carriers within one territory, nothing but their total accumulated and weighed average can provide the necessary guidance

for adjustments. With these deliberate qualifications and reservations, the proper use of average will safely survive as the most appropriate method to be used in rate procedures.

The Multiformality of the Trucking Industry

There can hardly be any doubt that very few industries and trades are exposed to such an abundance of economic disparities and organizational variances as common motor carriers for hire. There does not exist a set norm for the structure of traffic, for operational methods or for managerial systems which can be considered as typical. In each and every slightly comprehensive rate territory represented by a rate publishing agent or a bureau, we find carriers of general commodities

(Continued on Page 58)

TABLE III—Number of Active Proprietors of Unincorporated Enterprises for Representative Industries, 1946

Data in Thousands

	Total Employees	Active Proprietors	%
All Industries	47,147	10,113	21.4
Agriculture	2,255	5,037	223.8
Contract Construction	1,673	697	41.6
Highway Freight Transportation	424	154	36.3
Services	5,309	1,467	27.4
Wholesale & Retail Trade	8,227	2,206	26.8
Finance, Insurance, Real Estate	1,507	306	20.3
Highway Passenger Transport	196	31	15.8
Transportation, Total	2,850	191	6.7
Machinery, except Electrical	1,366	9	.7
Communications & Public Utilities	1,103	4	.4
Water Transportation	204	.3	.1
Services allied to Transportation	158	.3	.2
Railroads	1,563	.....	.....
Local Railways & Bus Lines	203	.....	.....
Air Transportation	75	.....	.....
Pipe Line Transportation	27	.....	.....

Source: U. S. Department of Commerce.

TABLE II

	Common Carriers General Commodities Class I 1946	Carriers of Property Common & Contract Class I 1945	Contract Carriers Own Equipment Class I 1945	Common Carriers of Property Leased Equipment Class I 1945	Class I Railroads 1946	Class I Railroads 1945	Natural Gas Companies 1946	Private Owners A & Electric Utilities 1946
Total Capital Stock & Non-Corporate Capital in % of:								
Total Assets	27.78	33.12	37.30	58.17	32.14	31.04	30.10	34.0
Long Term Debts	143.81	215.72	268.54	165.92	88.82	86.76	112.47	96.5
Total Surplus	206.91	264.53	198.36	235.54	174.11	174.81	369.60	470.5
Operating Revenue	10.58	12.11	16.97	7.02	105.88	90.50	152.30	155.0
Long Term Debts in % of:								
Total Assets	19.31	15.36	13.87	36.06	36.18	35.77	26.76	32.2
Operating Revenue	7.36	5.62	6.32	4.25	119.20	103.44	135.40	161.4
Net Operating Property	39.32	33.86	28.53	39.85	55.55	57.14	47.33	52.2
Total Surplus in % of:								
Operating Revenue	5.11	4.58	8.54	2.99	60.81	51.77	41.22	33.4
Total Assets	13.42	12.52	18.78	24.69	18.46	17.75	8.14	8.1

Source: Same as Table I.

Compare NEW DODGE "Job-Rated" TRUCKS feature for feature!



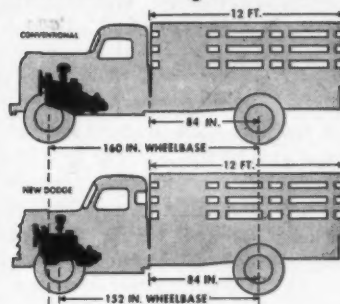
Read this 10 Point Comparison

(Dodge Model F-152; 14,500 pounds Gross Vehicle Weight—and Comparable Competitive Models.)

FEATURES AND ADVANTAGES	DODGE "Job-Rated" TRUCK	TRUCK "A"	TRUCK "B"	TRUCK "C"	TRUCK "D"
Wheelbase	152 in.	161 in.	158 in.	159 in.	161 in.
Cab-to-Axle—to take 12-foot body	84 in.	84 in.	84.06 in.	84 in.	84 in.
Wide-Tread Front Axles (shorter turning—more stability)	62 in.	56 in.	60.03 in.	58½ in.	56 in.
Modern "Cross-Type" Steering	Yes	No	No	No	No
Turning Diameter * —Left —Right	50½ ft. 50½ ft.	61½ ft. 61½ ft.	60½ ft. 54½ ft.	54½ ft. 54½ ft.	66½ ft. 66½ ft.
Maximum Horsepower	109	93	100	93	100
Total Spring Length (Front and Rear "Cushioned Ride") †	194 in.	171½ in.	162 in.	176 in.	182 in.
Cab Seat Width (Measure of Roominess) ‡	57¼ in.	52¼ in.	51½ in.	47½ in.	52¼ in.
Windshield Glass Area ▲	901 sq. in.	713 sq. in.	638 sq. in.	545 sq. in.	713 sq. in.
Vent Wings plus Rear Quarter Windows	Yes	No	No	No	No

* To outside of tire (curb clearance). Computed from data based on tests or computations obtained from usually reliable sources. † All four springs. ‡ Measured from production models. ▲ Computed from width and depth measurements; no allowance for contours.

Better Weight Distribution Easier Handling Shorter Turning Diameters



Front axles have been moved back, engines forward, placing more load on the front axle. While cab-to-axle dimensions are the same, wheelbases are shorter, giving better weight distribution, and increased payload.

This new weight distribution, combined with longer springs, produces a marvelous new "cushioned-ride."

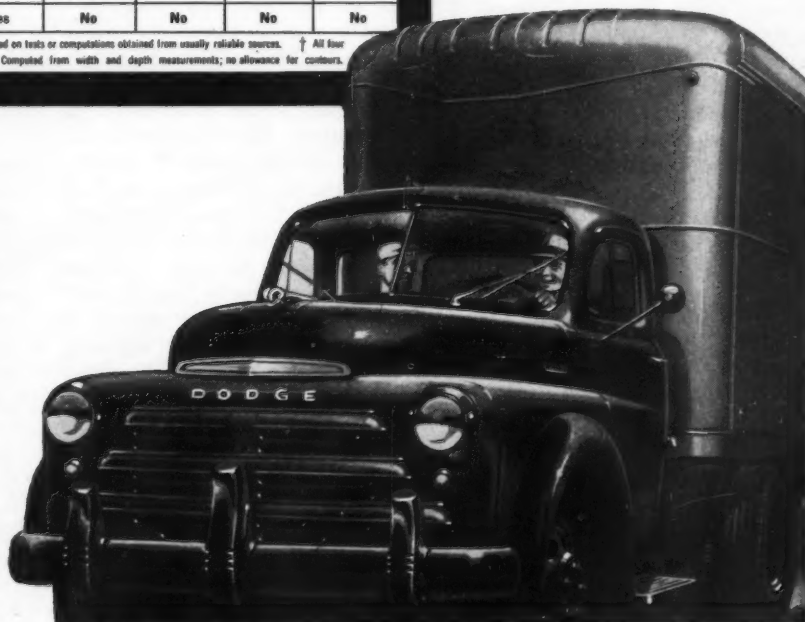
You get still more comfort from new "Air-O-Ride" seats, with their easily controllable "cushion of air."



You can turn in much smaller circles, both right and left—you can back up to loading platforms or maneuver in crowded areas with greater ease—because of new type "cross-steering," shorter wheelbases, and wide tread front axles. In all, 248 different "Job-Rated" chassis and body models. Up to 23,000 lbs. G.V.W. Up to 40,000 lbs. G.T.W.



- PLENTY OF HEADROOM.
- STEERING WHEEL . . . right in the driver's lap.
- NATURAL BACK SUPPORT . . . adjustable for maximum comfort.
- PROPER LEG SUPPORT . . . under the knees where you need it.
- CHAIR-HEIGHT SEATS . . . just like you have at home.
- 7-INCH SEAT ADJUSTMENT . . . with safe, convenient hand control.
- "AIR-O-RIDE" CUSHIONS . . . adjustable to weight of driver and road conditions.



BETTER INVENTORY CONTROL

(Continued from Page 23)

high construction costs, two factors that add up to a big problem for many managements, a problem that will intensify as the buyer's market assumes bigger proportions, a problem that can be solved only by means of better inventory control through mechanization and system.

Materials handling equipment, even when adequate, cannot cut the cost of handling inventory to a minimum unless the inventory control system used in the office is "tailor made" to the job and properly coordinated with the handling operations. This is where many managements fail to get maximum effectiveness out of adequate handling equipment. They do not coordinate it with a recording system equally effective. Putting finished goods in stores is one thing and keeping track of them is another. The latter is the job of office management. In the smaller concerns where the units produced are limited, or in the large organizations handling one unit of output, such as rolls of newsprint, the system utilized to control inventory may be comparatively simple. But in organizations where thousands of inventory items in large quantities, raw materials, in-process goods, parts for assembly and finished goods are stored, adequate inventory control demands a more complex system that requires frequent checking and the replacement of handwork with mechanical recording. The ordinary inventory forms filled in by hand or with a typewriter may suffice in organizations where inventory calculation is simplified, but where the inventory is such that it requires many recordings to determine item values and quantities, then tabulating machines using punch cards, bookkeeping machines, calculators, adding machines and modern index systems which minimize handwork, will cut the cost of recording inventory as

effectively as mechanized materials handling equipment will cut the cost of handling inventory.

The usual procedure in taking an inventory count is as follows:

1. Preparation of inventory tags describing the item.
2. Counting, weighing, measuring and estimating the quantity of each item on hand.
3. Recording the quantity on inventory tags.
4. Accounting for all tags.
5. Posting the inventory to stock records.
6. Calculating the value of each lot.
7. Analyzing inventory values by various classifications and groupings.
8. Calculating total value of raw storage, work in progress, parts for assembly and finished stock.

In many plants the inventory tags are written by hand, priced manually from cost records, the value of individual tags computed manually, then the total value computed. This is a costly procedure where stores items number in the thousands and sometimes tens of thousands. The difficulty of reconciling the inventory is usually aggravated by missing items, lack of uniformity in describing materials, and transcription errors, which are sure to creep in when the writing of tags is done by hand and by individuals not trained in stores control. Sorting tags by hand is a slow process. In many plants where other operations are well-mechanized, inventory records are still in the horse-and-buggy age.

Mechanization of the writing of inventory tags, pricing, calculation of values and sorting of the required classifications not only eliminate many of the difficulties, but

also give a more accurate inventory, conducted with minimum interference to normal functions. The machines used for recording inventory mechanically can also be used in daily order writing, accounting, shop orders and payroll work, so that the investment in this equipment is not all chargeable to the cost of handling inventory. Moreover, the labor and forms costs are less when the work is spread around.

The inventory count is a requisite to the computation of profit or loss and income tax liability. If the inventory is over-calculated, as is sometimes the case where the recording is inefficient, the profits are inflated and management pays a higher income tax. To arrive at a true figure on net worth the inventory count must also be accurate. However, inventory recordings should supply more than this information. The system should provide current figures on the stored items to use as a guide in buying and selling right, to speed up incoming and outgoing shipments when the current records show a lag somewhere along the inventory line, to keep capital invested in inventory at minimum as an economy measure, to assure that all stock is being covered by insurance at minimum cost, that the coverage is neither too high nor too low, to keep a check on errors, theft, damage and spoilage, to maintain goodwill by maintaining adequate stocks for customer requirements at all times. To keep such information current, many managements use the perpetual inventory as the watchman of the content of stores. It records daily what comes in, quantities and values per item, where it came from and at what price, what goes out, how fast it moves, where it goes and the balance remaining on each item. When the balance gets low on an item, more must be ordered from suppliers or production must speed up output. When the balance is too high, the production department is ordered to curtail on that item and the sales department is told to get busy.

Again the gears must mesh properly. This, in a nutshell, is the entire routine of storekeeping and control.

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Printing **CALCULATOR!**



the NEW "97"

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Four years of design, test, improve and re-test set the stage. Then followed business previews. From everywhere came rave notices for "the calculator that businessmen built." Now, we proudly raise the curtain on the new "97" automatic Printing Calculator!

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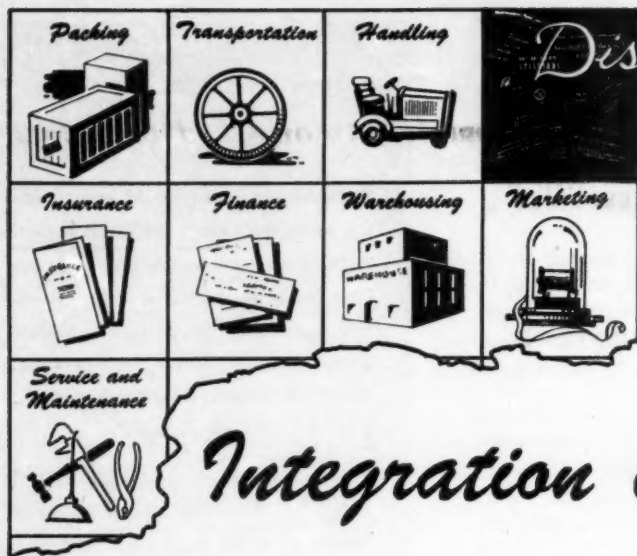
★ **10-KEY TOUCH CONTROL!** Enter figures as you read them, on the compact, 10-key keyboard. Finger groping and head waving are passé. Even beginners find rapid touch method natural.

★ **QUICK, QUIET, ELECTRIFIED!** Sound-proofing cushions keep high speed motor action muted. And remember, it's completely electrified—prints every factor and clears automatically after every problem.

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PRINTING **97** CALCULATOR

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Distribution STANDARDS and SPECIFICATIONS

Integration in Distribution

A "Preferred Numbers" is a standardization tool, applicable in many production and distribution areas, for accomplishing greater uniformity at points where various related activities connect.

By BENJAMIN MELNITSKY

AS WAS demonstrated in earlier articles of this series, there are no government officials with printed standards in one hand and spiked clubs in the other lording over American distribution. Standardization in this country is—as it should be—a democratic process. Enlightened self-interest, rather than compulsion, is the force leading to increased standardization and, in turn, to greater efficiency in distribution.

This self-interest is sufficient incentive for the adoption and use of standards in different segments of the national economy. A shipper will adhere to the packing and packaging requirements of standards promulgated by the Association of American Railroads or the American Trucking Association because the benefits to be gained are fairly obvious. The shipper can see that use of the standards results in lowered shipping costs, speedier delivery, and greater product protection.

Less obvious are the benefits to be gained from integration in distribution by means of standards. In standardizing packaging, carriers will logically give primary consideration to their problems.

They can hardly be expected to think at great lengths on the problems of insurance, warehousing, marketing, or other of the phases of distribution. Yet, the basic (not always the obvious) interests of all in distribution dictate the presence of integrated activity from the source of raw material to point of ultimate use, from primary producer to ultimate consumer. In the circuitous cycle of distribution, lowered costs are predicated on the attainment of smooth interaction among member parts.

Yet, how is this integration to be realized? As has been pointed out, self-interest alone is not the whole answer. To an important degree, integration can be attained *automatically*. There are available certain forces which, when applied in one area of distribution, have salutary ramifications in almost all other areas.

The most interesting and unusual of these are *preferred numbers*, a system developed in 1870 by a French Army engineer and since 1936 standardized in this country through approval by the American Standards Association. As implied by their name, these are standardized numerical values

preferred above others because they bear a logical relation one to the other. Each of the preferred numbers is uniformly and progressively larger or smaller than the other.

In the introduction to its standard Z17.1-1936, "American Standard Preferred Numbers," the American Standards Association has the following to say: "In the absence of any guidance as to what values should preferably be used, the sizes chosen by different designers will probably show a wide spread. As a result, the trend is away from such uniformity of sizes as would be advantageous as well as practicable. The adoption of a series of Preferred Numbers to be used by all designers, as the term indicates in preference to other sizes, tends to unify sizes chosen by different designers and thus to create the uniformity and consequent interchangeability which often are indispensable to successful standardization work."

Not only are these numerical values useful in the simplification of sizes, but they have even more important applications. Some of these are:

CHECK LIST OF STANDARDS

PREFERRED NUMBERS

American Standards Association
70 East 45th Street, New York 17, New York

Z17.1-1936	"American Standard Preferred Numbers"	\$0.50
B32.1-1941	"Preferred Thickness for Uncoated Thin Flat Metals (under 0.250")"	\$0.30

SIMPLIFICATION

Department of Commerce, National Bureau of Standards
Washington 25, D. C.

"Simplified Practice Recommendations, Alphabetical List"	FREE
"Simplified Practice Recommendations, Numerical List"	FREE

NOMENCLATURE

American Standards Associations

Z10f -1928	"Mathematical Symbols"	\$0.40
Z10.1-1941	"Abbreviations for Scientific & Engineering Terms"	\$0.45
Z10.2-1942	"Letter Symbols for Hydraulics"	\$0.45
Z10.3-1942	"Letter Symbols for Mechanics of Solid Bodies"	\$0.30
Z10.4-1943	"Letter Symbols for Heat & Thermodynamics"	\$0.65
Z10.12-1946	"Letter Symbols for Chemical Engineering"	\$0.50
Z15.1-1932	"Engineering and Scientific Charts for Lantern Slides"	\$0.60
Z15.2-1938	"Time-Series Charts, Manuals of Design & Construction"	\$1.50
Z15.3-1943	"Engineering & Scientific Graphs for Publications"	\$0.90
Z16.1-1945	"Methods of Compiling Industrial Injury Rates"	\$0.35
Z16.2-1941	"Compiling Industrial Accident Causes"	\$1.25
Z32.2-1942	"Graphical Symbols for Use on Drawings in Mechanical Engineering"	\$0.60
Z32.3-1946	"Graphical Symbols for Electric Power and Control"	\$1.00
Z32.5-1944	"Graphical Symbols for Telephone, Telegraph & Radio"	\$0.80
Z32.9-1943	"Graphical Electrical Symbols for Architectural Plans"	\$0.40
Z32.10-1944	"Graphical Symbols for Electronic Devices"	\$0.40
Z32.12-1947	"Basic Graphical Symbols for Electric Apparatus"	\$0.60
Z32.13-1946	"Abbreviations for Use on Drawings"	\$1.00

1. Designation of such important or characteristic linear dimensions as diameter, length, area, volume, weight, capacity, etc.

2. Rating of machinery and apparatus as expressed in horsepower, kilowatts, kilovolt-ampere, volts, currents, speeds, power factors, pressures, temperatures, weight handling capacities, etc.

3. Ratios of figures for all kinds of units.

As early as 1904, a series of values, paralleling closely the standard preferred numbers, were used in setting industrial wage scales. The well-known and widely-used Brown and Sharpe Gage numbers are akin to those used in the American Standard. The wage scale and the Gage System, in common with ASA preferred numbers, recognize that in many instances the use of arithmetical progression (5, 10, 15, 20, etc.) leaves much to be desired. Such is the case because straight numerical increases fail to demonstrate logical increases in value (10 is 100 percent greater than 5; yet, 20 is only about 33 percent greater than 15).

There are four major series of preferred numbers, each of which establishes progressive values between 10 and 100. The 5-series, the first of these, has five numbers between 10 and 100, each approximately 60 percent apart. Each of the numbers (10, 16, 25, 40, and 100) increases uniformly and logically. The same is true of the 10-series where 25 percent steps are taken, the 20-series where 12 percent steps are taken, and the 40-series where 6 percent steps are taken.

In addition to these four major series there is also an 80-series where each number is about 3 per-

cent different from its nearest neighbor. There are also series wherein numbers increase by steps of 9, 18, 40, 100, 150, and 300 percent. Logically, the preferred series is the simplest one, the 5-series. Next in line of preference is the 10-series, and so on.

By shifting the decimal point to the left or right, values are increased or decreased by 10, 100, 1000, etc. Thus, the series can be used for items to be measured with micrometers or with yardsticks, for any value, be it tiny or titanic.

In almost all instances where it is desired to cover the greatest

TABLE 1

BASIC PREFERRED NUMBERS—DECIMAL SERIES (10 to 100)			
5-Series (60% Steps)	10-Series (25% Steps)	20-Series (12% Steps)	40-Series (6% Steps)
10	10	10	10
			10.6
		11.2	11.2
			11.8
	12.5	12.5	
		13.2	
16	16	14	14
			15
		16	16
			17
	18	18	
		19	
20	20	20	
		21.2	
	22.4	22.4	
		23.6	
25	25	25	25
			26.5
		28	28
			30
	31.5	31.5	31.5
			33.5
		35.5	35.5
			37.5
40	40	40	40
			42.5
		45	45
			47.5
	50	50	50
			53
56		56	
		60	
63	63	63	63
			67
		71	71
			75
	80	80	80
			85
		90	90
			95

The four basic preferred number series, as standardized in ASA Z17.1-1936, in which numbers above or below 100 are obtained by multiplying or dividing those in the Table by 10, 100, etc.

number of requirements with the smallest possible variety, preferred numbers can be employed. For example, should the air lines eventually decide to standardize package dimensions, they could select as standard those dimensions appearing in the 40-series. Should water carriers also decide to do the same job and should they too make use of the same series, dimensions

of their packages would be similar or identical with those developed by the air carriers. Working separately and independently, the two carriers would, probably much to their own surprise, produce integrated package sizes. Let it be assumed further that preferred numbers were used by appropriate standard bodies in standardizing dimensions of warehouse shelves

or sizes for wagons used in retail stores for moving stock. It would be found that the packages standardized by the air and water carriers would fit perfectly in the shelves as well as in the wagons. The list of other instances of integration resulting from the use of preferred numbers could be extended indefinitely.

The system of preferred numbers, expressed in the metric system, has long been in use in Europe. In fact, the pre-war International Federation of National Standardizing Bodies (ISA) had several standards on this subject. Since the difference between decimal and metric preferred numbers is approximately 1.6 percent, it is found that both systems of preferred numbers are very similar in the values they express. In fact, a package designed according to European preferred numbers would be readily integrated into a distribution system using the American series of numbers.

The ramifications of these numerical values are truly fascinating; yet not at all mysterious. The system works so well because it replaces a condition where combinations of values are composed irrationally from an infinite quantity of numerical values. Lacking the controlling influence of preferred numbers, sizes and types of products can reach amazing variety. A few examples taken from the records of the National Bureau of Standards should suffice at this point. At one time there were 715,200 different varieties and sizes of grinding wheels, there were 2,328 types of horizontal fire-boxes for steel boilers, 2,072 sizes for packages used to ship woven wire fencing, and over one thousand sizes for set-up boxes. The figure of 715,200 different types of grinding wheels deserves this one repetition. It seems utterly beyond human comprehension that such a veritable galaxy of grinding wheels could ever have been possible, let alone necessary. Yet, it can be seen that such a fantastic variety might be forthcoming if a few variables such as diameter of wheels, thickness, and so on were designated without the restraining influence of preferred numbers.

TABLE 2

BASIC PREFERRED NUMBERS—FRACTIONAL SERIES ($\frac{1}{16}$ to 40)											
The use of the fractional system should be restricted to linear dimensions in inches where fractions are in common use and where the decimal is therefore impractical. Percentage figures in headings are approximate averages.											
$\frac{1}{16}$ to 1				1 to 10				10 to 40			
5-Series (60% Steps)	10-Series (25% Steps)	20-Series (12% Steps)	40-Series (6% Steps)	5-Series (60% Steps)	10-Series (25% Steps)	20-Series (12% Steps)	40-Series (6% Steps)	5-Series (60% Steps)	10-Series (25% Steps)	20-Series (12% Steps)	40-Series (6% Steps)
				1	1	1	1 $1\frac{1}{16}$ $1\frac{1}{8}$ $1\frac{1}{4}$ $1\frac{1}{2}$ $1\frac{3}{4}$ $1\frac{7}{8}$	10	10	10	10 $10\frac{1}{16}$ 11 $11\frac{1}{8}$ 12 13 14 15
	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$		$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	16	16	16	16 17 18 19 20 21 22 23
$\frac{3}{16}$	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$				
	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$ $1\frac{1}{2}$ $1\frac{3}{4}$ $1\frac{7}{8}$	2	2	2	2 $2\frac{1}{8}$ $2\frac{1}{4}$ $2\frac{3}{8}$ $2\frac{1}{2}$	20	20	20	20 21 22 23
$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$ $1\frac{1}{8}$ $1\frac{1}{4}$ $1\frac{1}{2}$ $1\frac{3}{4}$ $1\frac{7}{8}$ $2\frac{1}{8}$ $2\frac{1}{4}$ $2\frac{3}{8}$ $2\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$ $2\frac{3}{4}$ $2\frac{1}{2}$ $2\frac{3}{4}$ 3 $3\frac{1}{4}$ $3\frac{1}{2}$ $3\frac{3}{4}$	24	24	24	24 26 28 30 32 34 36 38
$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{2}$	4	4	4	4 $4\frac{1}{8}$ $4\frac{1}{4}$ $4\frac{1}{2}$ $4\frac{3}{4}$ 5 $5\frac{1}{8}$ $5\frac{1}{4}$ $5\frac{3}{8}$ $5\frac{1}{2}$	40	40	40	40
$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$ $1\frac{3}{4}$ $1\frac{7}{8}$ $2\frac{1}{8}$ $2\frac{1}{4}$ $2\frac{3}{8}$ $2\frac{1}{2}$	6	6	6	6 $6\frac{1}{8}$ 7 $7\frac{1}{4}$ 8 $8\frac{1}{4}$ 9 $9\frac{1}{2}$	Above 40 the fractional Preferred Numbers are the same as the decimal Preferred Numbers (Table 1).			
$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$ $1\frac{7}{8}$ $2\frac{1}{8}$ $2\frac{1}{4}$ $2\frac{3}{8}$ $2\frac{1}{2}$	8	8	8	8 $8\frac{1}{4}$ 9 $9\frac{1}{2}$	Below $\frac{1}{16}$ the decimal series should be used. Below $\frac{1}{8}$ the steps of the 40-series are omitted, as gradations finer than that of the 20-series will seldom be used.			

The four basic preferred number series, as standardized by ASA Z17.1-1936 are expressed in fractions in order that the system might conform to well-established practices

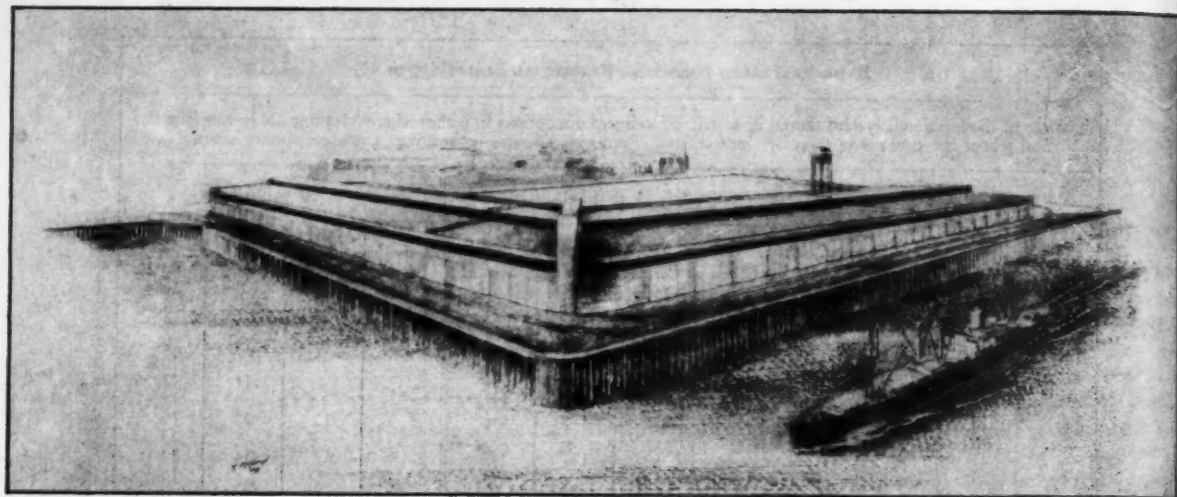
By the simple expedient of recommending that designers, engineers, and others restrict themselves to the use of a limited few preferred numbers, the possibility of their running amok is greatly reduced. Preferred numbers lead inexorably to simplification and, still more important, to coordination.

Despite their obvious worth and undisputed value, preferred numbers are not being used to the extent that might be expected. New-

ness of the concept is not the reason. Preferred numbers have been discussed at the conventions of engineers, in the trade press, and elsewhere since the end of the last war. Experience in Germany and other European countries have demonstrated the practical value of these preferred numbers. There has been an American Standard for these numbers since 1936. Yet this valuable system has been applied only sparingly in industry and hardly at all in distribution.

The many complexities of the system have of course not been detailed in these few pages, nor have its fine points been presented. However, the value of preferred numbers as a force in attaining integration among the various phases of distribution is of such importance that it behooves all those persons who are concerned with standardization to study the basic standard (ASA Z17.1-1936) and to seek out those phases in dis-

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PROGRESSIVE PORTS

. . . this month: PORTLAND

Portland, Oregon, one of the nation's largest fresh water ports, has spent millions of dollars since the war in improving its excellent harbor and in providing facilities for more efficient distribution service . . . Its fine handling equipment, good rail connections and spacious warehouses demonstrate the value of coordinating the various phases of distribution.

ONE of the leading fresh water ports of the nation, Portland, Ore., prides itself particularly on its fine bulk cargo handling facilities. But this fine harbor of the "City of Roses" offers shippers more than this. It effectively combines modern improvements and developments in the basic phases of physical distribution to bring fast, efficient shipping, docking, storing and handling of goods to its customers.

Four major railroads serve Portland: Union Pacific, Northern Pacific, Great Northern, and Southern Pacific. Regular steamship service is maintained to the Orient and the Philippines, as well as to Europe and the Gulf and East Coasts of the United States. Motor

transportation links the city with other manufacturing and consuming towns and cities, and goods pour in for shipping to world ports or are funneled out by rail and truck for distribution throughout the country.

Portland has 29 miles of fresh water waterfront, and is constructing at present, under the auspices of the Commission of Public Docks, a new two million dollar dock adjacent to Municipal Terminal No. 1, in the heart of the city, when completed to be a part of that terminal. Three new ship berths will be provided, and for the present it will be used as an open dock to assist in handling the vast quantities of lumber which are cut in the Northwest and

shipped through that port. Storage capacity will be approximately 40 million board feet. The dock, as can be seen from the accompanying artists' conception, when finally completed with shipside warehouses, will be of the latest streamlined construction, with paved area throughout. Ample light will be let in, and double railroad tracks will run along the aprons.

Since the war the Commission of Public Docks and private enterprises in Portland have spent considerable money in renovating, enlarging and improving port facilities. Much new equipment has been bought and put into service. Of particular interest are two
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CONTRACT CARRIERS

(Continued from Page 38)

has sought the power to regulate contract carriers since shortly after the close of the war when such carriers began to become an important factor in air transportation. Both the President's Air Policy Commission and the Congressional Aviation Policy Board, reporting within the last few months, have made such a recommendation in the belief that the economic regulation of contract carriers by air is necessary to prevent unstable conditions in the air transport field similar to those existing in the motor carrier field prior to the passage of the Motor Carrier Act of 1935.

At the time of the enactment of the Civil Aeronautics Act, contract carriage by air did not present any significant problem, not having developed to the degree that had already been attained by contract carriers in the motor field in 1935. Since the war, however, the air contractor appears to have assumed significant proportions in air transportation, and the time has arrived when orderly and sound development of our air transport system requires that the air contractors, and particularly those using large or transport category aircraft, be subjected to the degree of regulation appropriate to that type of operation. By "appropriate regulation" we mean that the time has not yet arrived for economic regulation of those air contractors known generally as "fixed base operators," who by reason of the casual or infrequent nature of their operations, or the limited number or size of their planes, do not substantially affect the operations of certificated airlines or licensed air contractors.

No one knows just how much business the contract air carriers have been doing. The very fact that the CAB does not have any jurisdiction over them has left the board without adequate means of obtaining complete information on the extent of contract carriage by

(Continued on Page 56)

Different businesses— but all agree: Speed Pays!



Hotels use Air Express regularly when guests leave something behind. Costs little and brings guests back again! *Speed pays.*

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HEADACHES

Jack McCormick, free lance traffic manager, discusses one of the traffic managers' headaches—the onerous and little-appreciated task of securing passenger train reservations for company officials and the moving of employes' goods.

By HENRY G. ELWELL,
Traffic Consultant

“AN INDUSTRIAL traffic department has numerous duties. These include the work of procuring passenger train reservations for officials and employes of the company,” observed Jack McCormack, free-lance traffic manager.

His remark was directed to John Gordon, traffic manager of the Roxton Mfg. Co. The two men had just finished a nip and tuck game of golf. Now they were sprawled out in comfortable chairs on the clubhouse porch. For a time they had compared notes as to their respective scores. Then the conversation had drifted to one phase of a traffic department's functions.

Author's Note: Names of persons, companies and places are fictitious.

“With all of the really important services rendered by a traffic department,” McCormack continued, “it seems that many persons in industry incorrectly gauge the department's value on the amount of drawing-room or compartment space it can reserve on passenger trains.”

Gordon smiled. “Yes, that's also my impression gathered from the attitude of several of the officials of our company. They always insist on having the best. In fact, they invariably ask for a drawing room, never a compartment. They raise a fuss if I so much as mention upper or lower berths or sections, even if a certain train may have only two or three drawing rooms or compartments. On the other hand, inconsistent as the offi-

cials may be, my department finds it much more difficult to satisfy the demands of the company's foremen, etc. And the salesmen! They take the cake!”

Gordon paused to relight his cigar and then resumed: “Last week I was requested to make train reservations for three of our salesmen. They were going to Memton on the seventh and returning the eighth. I had the railroad tickets and reservations all lined up. When I got back from lunch I found on my desk a note asking that I cancel the reservations. The salesmen had changed their minds. They didn't know whether they wanted to return on the ninth or the tenth. I was called upon to make three reservations for the ninth and three for the tenth, after

which the gentlemen would decide as to their return."

"It is obvious that salesmen must often change their plans for traveling," McCormack said. "Yet it does seem as if they could be more cooperative in dealing with the traffic departments of their respective organizations."

"Then there's another angle," Gordon complained. "I'm often urged by persons in our company to arrange for the stopping of through trains at stations unscheduled for stops. When I report back that the train cannot be stopped, one would think the world was coming to an end. Such beefing about the 'high amount of freight we give the railroad.' I endeavor to make clear that the tonnage we ship has no bearing on the issue at hand, but I might as well save my breath."

"Do any of your officials or members of your company's sales force ever ask for single occupancy of a drawing room or compartment?" McCormack queried.

"They certainly do. It's a habit with them," declared Gordon. "But when I inform them of the extra cost, they grumble and growl about the unreasonableness of the railroads."

"Well," maintained McCormack, "it is not unreasonable to require a passenger desiring the exclusive use of a drawing-room to purchase two railroad tickets.¹ Rates fixing charges for drawing-rooms at two fares and for compartments at one and one-half fares are reasonable. The added cost to carriers and greater value to the passenger of the service justify the additional charge."²

"I agree with you," Gordon replied. "By the way, have you any idea as to the basis on which the rates for drawing-rooms, etc., are set?"

"The basis for . . . accommodations, except seats, is the lower-berth rate," McCormack explained.³

"Fair enough," Gordon agreed. McCormack gave a short laugh. "I'm thinking of the situation where a person neglects to buy a ticket at the passenger station before boarding a train."

(Continued on Page 75)



FARQUHAR Conveyors Cut Your Costs

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Top illustration shows how Farquhar freight model speeds up floor-to-floor handling in laundry plant — carrying laundry bundles from delivery trucks to second floor.

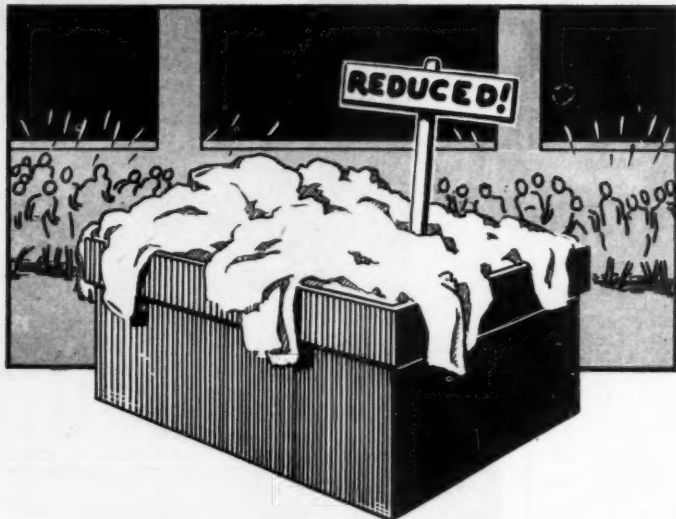
Bottom illustration shows how a North Carolina plant eliminated "dead" storage space with the installation of Farquhar Freight Conveyor. Hundred pound bags of cotton seed meal are now piled higher, faster, easier—in places never before possible with hand labor.

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Get Ready for the Buyers' Market



The return of a buyer's market necessitates, not revolutionary changes in procedures or policies, but merely closer attention to coordination and integration at those points where one distributive activity connects with another.

By WILFRED F. LONG

President, S. N. Long Warehouse

"GET ready for a buyer's market." That admonition has come to sound something like the daily clatter of the alarm clock—for the past six or eight months, we've heard the warning so frequently and from so many quarters that many of us have become rather conditioned against its significance, rather inclined to ignore its reality. Some of us have come to react to it much as we react to the alarm clock—to think that it is perfectly safe to roll over and get another ten minutes' sleep.

Some of us are going to forget to wake up after those ten minutes. And those of us who do forget will eventually wake up to find the day half gone, our markets being served by more wide-awake competition, our own businesses

on the brink of collapse. We will find that in failing to recognize the buyer's market we landed squarely in the middle of no market at all.

The Importance of Handling

"THE importance of materials handling can be summed up in one short sentence—22 percent of industrial outlay consists of handling costs." Much of this is unnecessary, because physical distribution is one of the places where costs can be reduced. Many firms have cut handling costs by more than 50 percent by careful planning and efficient use of mechanical handling systems and devices.

The analogy to the alarm clock goes further. The warning to "get ready for a buyer's market" is actually a signal to awaken from the pleasant dreams of three years of war bonanza and three more years of post-war boom.

There remain some individual commodities, of course, for which the demand is still as great as at any time in history. Automobile manufacturers, for example, estimate that orders now on file cannot be filled in less than two years—this not even considering orders which will be placed during those two years.

Despite exceptions of this type however, it is obvious to all that generally speaking the seller's market is fast disappearing. A clear example was the recent furniture show in Chicago, one of the nation's largest merchandising exhibits. Following this year's show

Address at the National Marketing Conference, Chamber of Commerce of the U. S.

exhibitors reported that buying this year was slower than in any year since the beginning of the war. This is typical of the war-created markets which have been largely satisfied during the nearly three years of post-war boom. From now on, such markets will have to be developed—buyers will have to be created by the manufacturers.

Then there is, of course, the business cycle in itself. The general pattern of that cycle has been fairly well established in the past, and there is no reason to suppose the pattern will change after centuries of repetition. That does not mean there must inevitably be a major economic collapse following the current prosperity wave. Careful planning and hard work on the part of all phases of industry should be able to avoid that. It does mean, however, that the cycle will almost certainly continue and result in some lowering of business activity. The current "boom"—which has lasted more than two and one-half years, figuring from the end of the war onward—is the longest in American history; it is thus realism, not pessimism, to expect—and to be prepared for—some gradual recession in the coming months and years.

What are the conclusions to be drawn from that fact? Are we to indulge in gloomy forecast and destructive fears? Must we resign ourselves to breadlines and bankruptcy?

There is no real reason why the return of the buyer's market should be viewed as the beginning of depression, and there is no reason why it should be feared. Actually, it seems to me that the buyer's market represents instead a return to the most healthy of business levels. Booms created by unavailability of goods certainly cannot be considered economically healthy, even if they do bring increased gross income for a limited period of time. The other extreme—depression—obviously is a sign of a sick economy. But the middle, the normal of brisk but prosperous competition, means vitality and growth and sound economic development. Competition—and that is the essence of a buyer's market—is the basis of free enterprise; it

(Continued on Page 64)

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Congress To Investigate B. P. Pricing



Harris and Ewing

Senator Capehart heads Congressional sub-committee which starts hearings in November on the multiple Basing Point Pricing system to determine the effect of recent Supreme Court decisions on distribution.

By ARNOLD KRUCKMAN
Washington Correspondent

THE Federal Trade Commissioners and its legal staff have declared that the multiple basing point decision does not prevent the maintenance of a uniform delivered pricing system, such as is practiced in selling chewing gum, cosmetics, shoes, and other merchandise. In other words, they have asserted that the basing point decision *does not* run counter to the intent of the Robinson-Patman Law and other anti-trust legislation which is the steering chart for the FTC. They have also been emphatic in their statements that the basing point ruling does not prevent systematic freight absorption by a single seller to meet the price of a competitor located closer to the customer.

Therefore it hit the country and the members of Congress with a shock when they learned, in a brief filed in July with the Court of Appeals at Philadelphia against subsidiaries of U. S. Steel, that the Federal Trade Commission argued that the cement decision in the basing point litigation prevents freight absorption as well

as phantom freight; they are painted as equally iniquitous and contrary to the law, and as fostering monopoly. *Also the FTC maintained that the price of each seller must be uniform among his customers without discrimination through either phantom freight or freight absorption in any form.*

Obviously, if the court agrees with the FTC, it will not be possible for a single seller anywhere to have a uniform delivered price. It is plain when the same article is sold from Maine to California, and from Alaska to the Virgin Islands, there must, of absolute necessity, be the practice of phantom freight or freight absorption at every point where the article is sold, except at the point where the goods are made, or where they may be considered to be originally based. There can then only be a net price, free of freight at the basing point. The principle applies exactly the same to light goods, where the freight is not substantial, as it does to cement and steel, where the freight is seriously important. This indubitably means that a seller, no matter

what the goods may be, may not absorb any part of the freight costs in order to compete with competitors located nearer to his customer than he is at his basing point. If this theory of the FTC is sustained by the courts, it simply means we go back to a system of commerce which was practiced over a hundred years ago.

Senator Homer E. Capehart of Indiana, chairman of the newly established committee which will study the whole problem of the practice of the basing point system and other established systems of similar purpose, recently made a statement which gives a reasonable indication of what is in his mind about the basing point system. He said: "If the policy of the FTC is validated by the court, it will mean that each seller will ultimately acquire a local monopoly in the area of his natural market. There will, of course, be eliminated the so called economic waste of cross-hauling by a seller into his competitor's territory. There will be numerous decentralizations of plants. The seller who now operates one big plant will be

compelled to switch to several small plants—plants scattered throughout the country—in order to save freight. But there will be geographical concentration of industries as each of these small plants locates as close as possible to its consuming market in order to achieve the highest advantage of savings in freight costs. This shift, patently, will aid those plants located strategically near consuming markets, and those businesses that have sufficient capital to build new plants at these strategic points. It will, of course, hurt those plants not located strategically, and those businesses that cannot afford to build new plants. It is very clear that in areas where production of a given commodity exceeds its use—such as, for instance, Pittsburgh, which produces twice as much steel as is consumed in that market—there must either be an exodus from Pittsburgh, or closing of plants in and about Pittsburgh, or an influx of steel users to Pittsburgh. These shifts naturally will necessarily be accompanied by shifts of population as workers in the affected industries are required to move to keep their jobs.

"Where does all this lead? Will it promote competition, or will it tend to stifle competition? It is maintained that competition is not always the most economical means of doing business. In fact, there would be no monopolies if the monopolists did not think that they could achieve economies by creating their monopolies. It is, of course, not economical for four or five milk companies to send their wagons past your door each morning. This, however, clearly is not the essence of competition.

"Another question is, will this change permit big business to acquire an even greater percentage of the available industrial business of the country? Will it permit small businesses to grow and expand, or will it freeze small business at its present level in the present local markets?

"The answers to these questions are some of the inquiries which our committee proposes to make. By hearing witnesses from all seg-

(Continued on Page 60)

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CONTRACT CARRIERS

(Continued from Page 49)

air. To gain even some idea of the extent of such operations, it is necessary to resort to various incomplete sources of information. It is known, however, that there are many operations involving the carriage of persons and property which are alleged to be non-common carriage and which are being conducted by non-certificated carriers as well as by some of the airlines.

During the entire year 1947, it is estimated that the non-certificated carriers transported 600 million revenue ton miles of air cargo as compared to 45 million revenue ton miles reported by the certificated airlines. A substantial portion of the cargo so transported by the non-certificated carriers allegedly was on a "contract," or non-common carrier, basis. Similarly, many operations conducted by certificated carriers were contended to be "contract" operations and hence not subject to requirements of the act regulating air transportation. There is not even an estimate available as to the number of persons transported in contract operations. Many carriers holding letters of registration or certificates of public convenience and necessity issued by the board have entered into contracts with large corporations for the transportation of company personnel, with various organizations and firms to provide transportation for agricultural and industrial workers, and with other organizations for the transportation of persons supplied by or belonging to the organization. In addition, a substantial number of persons have been and are being transported between the United States and foreign points, particularly the Pacific area, under contract either with agencies of the government or as subcontractors to persons holding government construction contracts.

In addition to the contract operations of certificated carriers and noncertificated carriers registered

with the board, it is a well known fact that there are a considerable number of carriers operating at this time on a contract basis who have never taken the trouble to register simply because they do not have to or because they think they gain some advantage by avoiding board scrutiny. Some of these carriers formerly operated openly as common carriers, but due to a desire to avoid the additional requirements imposed upon non-certificated carriers by the board's revised Economic Regulations, they have failed to register and are now alleging the right to engage in contract carriage only. New carriers are constantly entering the field of air transportation on a contract basis, and many such carriers expand their operations into those of a common carrier and so operate for a considerable time, as a rule, before the board discovers the fact and is able to take steps to enforce compliance with the act.

Appropriate regulation of contract operations by air should be provided, through amendment of the Civil Aeronautics Act of 1938, as soon as possible. The purpose of such regulation should not be, however, to stifle this class of operations, but rather to afford them a legitimate sphere within which to fit into the orderly and economically sound development of the air transport system of the country. It would seem clear that air contractors, if made subject to virtually all the regulatory controls which apply to the certificated carriers, but given none of the advantages of the latter group, would find it difficult to survive. The ability to make rapid changes in service and rates to meet the changing requirements of patrons is the most essential characteristic of contract carriage. Experience in land and ocean transportation has demonstrated that contract carriers must furnish an exceptionally flexible service. Normally, contract carriers serve only a

limited number of shippers and handle a relatively limited number of commodities. If the business supplied by such shippers with whom they have contracts tends to disappear, the contract carriers must be free to seek other patrons, to try and locate different types of business, or to make rate concessions sufficient to attract traffic to their type of service. If they cannot do this, their equipment goes unutilized and they eventually go out of business.

Three basic reasons may be listed as underlying the need for contract air carrier regulation: 1. to prevent destructive and wasteful competition among the several parts of our air transport system, with the resultant weakening thereof; 2. to assure within reasonable limits responsible service to the public by operators in the contract field; (3) to facilitate the administration of the air transport program established by Congress in the Civil Aeronautics Act by eliminating an area of uncertainty and a possible source of evasion of the requirements of the act.

Today, contract carriers are free to compete directly with the certificated airlines between the same points and for the same kinds of traffic. They can engage in such competitive practices as they think necessary to obtain traffic. Since they are not obligated to provide service to the public, as are the certificated carriers, they are in a position to serve only the most attractive types of traffic and leave to the regulated carriers the obligation of providing service to the less profitable and more troublesome classes. At the present time the board is powerless to prevent this, regardless of its effect on the public interest and on the development of a sound transport system by air.

The contract operations of some carriers have been the subject of numerous complaints to the board from shippers and travelers. Such complaints have alleged failure to perform the services contracted for, failure to refund money collected for services not performed, and misrepresentations as to the quality and character of the serv-

ice offered. The failure of some contract carriers to discharge the responsibility and duty owed to the public tends to discredit other air carriers in the eyes of the traveling and shipping public, which frequently does not distinguish between the carriers required to comply with the Civil Aeronautics Act and board regulations issued thereunder and those not so required.

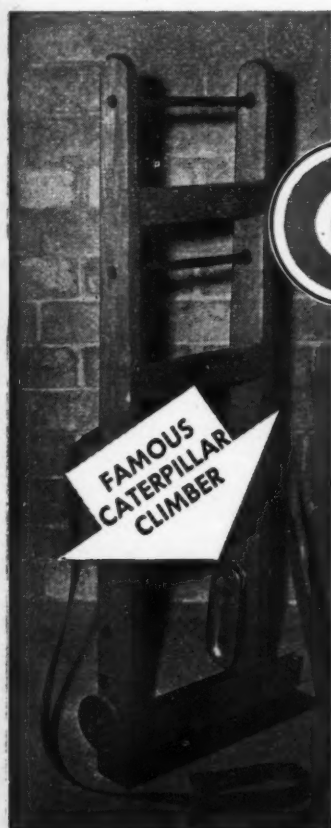
The right to conduct contract operations free of economic regulation affords an irresponsible carrier an opportunity to evade the tariff and rebate provisions of the act. It is common knowledge that many so-called "contract" operations are merely arrangements whereby reduced rates or other preferential treatment is afforded a favored shipper, or whereby the carrier engaged in such operations attempts to avoid other limitations placed thereon by the Civil Aeronautics Act or applicable regulations. The board in its efforts to enforce the act is constantly met with the assertion that a particular

flight or activity is "contract." Although it might ultimately be established in either a board or court proceeding that alleged contractual operation is actually common carriage and hence subject to regulation, the process of so proving is a time-consuming one and the carrier can, in the meantime, continue to engage in its unregulated activity.

There is another aspect of "contract" air transport needing attention. This is the contract (non-common carrier) operations of certificated airlines whose primary responsibility is to furnish common transportation over their certificated routes. Contract operations by certificated airlines present a two-sided problem. The first, which concerns contract operations over the routes of other airlines, is merely a particularized instance of the main problem of preventing unregulated contract carrier competition with the authorized common carriers. The second, which relates to contract operations by an airline over its own route,

raises the problems of possible discrimination in rates and specialized services to favored shippers, which unless adequately controlled, may give rise to serious abuses.

The temptation for an airline to discriminate in favor of a large shipper by entering into a contract to carry that which should be carried subject to the tariff rates and in common carriage seems evident. In fact, it seems probable that only in rare cases could a bona fide contract operation be conducted by a certificated carrier over any of its certificated routes both as to cargo and passengers. However, the certificated airlines, when they venture into the contract field, should receive no special preference or advantage in conducting such operations, and as a general rule they should be allowed to conduct both common and contract carriage over the same routes only upon a showing that the circumstances are such that it is in the public interest.



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THE STEPS**

REGULATION OR REGIMENTATION

(Continued from Page 40)

carriers of special commodities, carriers who employ mostly hired equipment, others who operate predominantly with their own vehicles, carriers over regular routes between larger commercial or industrial centers, truckmen with irregular rights over a widespread territory. Small wonder then that it is not too difficult to shred into pieces facts and figures presented as representative for comprehensive sections of the industry. It is easy to expose many an isolated case which apparently disproves general conclusions and statements.

But are the results of this strategy not rather shortlived? Are we now not in the possession of facts and figures which take statistical notice of these differences and group the accounts and returns of different carriers in a corresponding order? We found substantial material of this type in the more recent statistics of the ICC, which provides valuable clues to the questions posed by these conditions normally not customary to publicly regulated industries. These statistics distinguished between five different types of motor carriers for hire: 1. class 1 motor carriers of property; 2. common carriers using own equipment (maximum 10 percent hired); 3. common carriers using more than 10 percent leased equipment; 4. common carriers of special commodities (own equipment); 5. contract carriers using own equipment. Do differences in the pertinent ratios, commonly used in the presentation of rate cases, warrant an attitude of complete negation of such evidence because of the admitted differences in the basic material? Our Table I provides the answer.

Without yielding to the temptation of a searching analysis of the meaning of these figures, which may be attempted at some other occasion, we may state without too much simplification: whereas some ratios reflect very

clearly the difference between the various types of carriers, yet the differences in the basic indices of success or failure, of amplitude or narrowness in the financial structure become rather small. It is no surprise that carriers using mostly leased equipment show to a much greater extent than the other carriers all the symptoms of a poorly capitalized industry. Their final financial achievements as measured by the "rate of profit" or the "net rate of returns" vary too frequently and do not warrant the conclusion that carriers using leased equipment have generally a costlier operation. Nor can it be stated conclusively that their inclusion into general representations of carriers' needs for revenue be called a great distortion. One fact, however, stands out from all figures presented in this table. The economic and financial structure of common carriers of *specific commodities* and of contract carriers is substantially superior to those of common carriers of *general commodities*, and sooner or later the industry as well as the regulating agencies and the shipping public will have to awake to these facts. In conclusion, we may again safely state, however, that the application of the average principle has not suffered any major damage through the arguments of its critics, which would make it unusable or greatly fallible in rate proceedings.

The Reinvestment of Profits

Nobody will deny that most motor carriers, which now proudly report gross operating incomes of millions of dollars, were once founded on a shoestring. On the contrary, the industry takes just pride that it has been built without bank, institutional or government money assisting to any extent its growth into a big industry status. Or has the public paid for this de-

velopment by submitting to excessive rates, which allowed for unusual profits and for the accumulation of gigantic surpluses? The fallacy of such a statement becomes obvious if the financial results of motor carriers are followed through the years. This was not an industry to contract tremendous capital obligations entirely unrelated to the expectancy of business volume or profits. They have no long term debts and fixed obligations other than those in reasonable proportion to their total operating income. Consequently, even modest incomes, not decimated by excessive individual profits of industrial tycoons, could be used as a reinvestment in productive property and equipment. And in direct relation to the growth of the potentialities of their traffic, they were able to finance gradually the increase of their added equipment.

A glance at Table II which compares ratios of *capital investment*, *long-term debts* and *surplus* of the motor carrier industry with corresponding figures of other transportation or Public Utility industries will bear out in full these statements.

Owners' Salaries

More confusion and distortion have been created with regard to the personal income, withdrawals and expenses of the owners of motor carrier enterprises than with any other subject in the turbulent criticism of their financial presentation. We most certainly will not try to indulge in apologetic explanations why men and women may be entitled to substantial compensation because they risk their modest savings or possessions, because they invest not only tangible funds but also their labor, and because, year after year, they continue investing and reinvesting into the same enterprise. As cool observers of facts, we revert again to figures supplied by disinterested and impartial agencies. Tables III and IV illustrate two facts well worth remembering: 1, the percentage of actively engaged investors is unusually high in motor

transportation; 2, the average salary of the motor carrier executive keeps well in line with executive salaries of railroad and other industrial enterprises. Should there really exist an insignificant number of digressors from the accepted ethics and rules of fair play, where is the industry, large or small, that would cast the first stone?

It may be observed parenthetically that executives' and owners' salaries form a sizable portion of the *total expenses* in motor carriers' operations. So does their active contribution to the daily chores of a so closely knitted organism. These payments, in some instances, may bear heavily upon the net return. With the small margin of operational surplus in such enterprises, this is an obvious and trivial mathematical necessity. But as long as the total outlay for owners and executive salaries remains within reasonable limits and is commensurate with the operating income of the company, any substitute for the proper utilization of operating ratios means

nothing but playful manipulations with figures, leading nowhere.

It has been suggested that a selection of the most efficient and economical carriers and the elimination of less successful contenders may work for upgrading of operating efficiencies.

There is something of the economic philosophy of "unused capacity" behind these suggestions. It has been pointed out frequently enough that motor transportation is just the antipode of any industry with fixed facilities and capacities, which constantly have to be supported by sufficient

revenues regardless of the actual demands of trades and times. Motor transportation is extremely susceptible to changing conditions of demand and supply. Its volume of business extends and shrinks with the economy of which it is a part. There is no necessity to maintain a standard of rates in order to support the weakest link in the chain of operators, because all of them act rather independently of each other with only a very small volume of continuous carriage of freight between them. Their equipment can easily be stored or disposed of at reasonable prices and used somewhere else, and their burden of fixed interests is negligible. There is no unused capacity in motor transportation for which the public has to pay in uneconomical rates. No other regulated industry is more exposed to competition than the common motor carrier. Its traffic does not bear payment for "services not rendered."

Would one not really carry the
(Continued on Page 73)

Aircargo Radar

The installation of airborne radar in a Pan American all-cargo overseas plane is resulting in safer, more efficient flights across the Atlantic. Tests of the radar are being conducted jointly by Pan American and American Airlines and are expected to be completed in about a year. Complete data of the performance of the radar set are kept and readings carefully logged. Hundreds of square miles become "visible" to the pilot, including the topography of the land below and even some large cloud masses, enabling him to steer clear of trouble spots and rough going.

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WASHINGTON NEWS

(Continued from Page 55)

ments of the national economy, we hope to learn the answers to these questions. Our primary purpose in making this study is to determine what *pricing policy* will best serve our free enterprise, competitive system of doing business. The question of price is the basic consideration. Price, in connection with commerce, has never yet been legally defined.

"We want to preserve the right of little business and little businessmen to grow and expand in order that they may effectually compete with their larger competitors.

"We invite all those who have an interest in the matter to communicate their views to us."

The committee undoubtedly will be known as the Capehart Committee. It is a sub-committee of the Senate Interstate and Foreign Commerce Committee. There is some feeling in Congress that the investigation should have been made the job of the Senate Small Business Committee, headed by Senator Wherry, and directed by George F. Meredith. The gossip is that it was corraled by Capehart because the investigation unquestionably will become one of the prime interests of the country. It affects the consumer just as much as it affects the manufacturer, the wholesaler, and the retailer. The investigation will have great political worth to those who are in charge. Senator Wherry wanted it because he is having the fight of his political life in Nebraska. Anything that brings him conspicuousness and publicity, will help him in his campaign.

The committee must make its report to Congress on March 15, 1949. It has received an appropriation of \$50,000 for its initial activities. It has had its organization meeting in the capital. Every member was present. The committee consists of Senator Capehart and Senators Brewster (R., Maine), Hawkes (R., N. J.), John-

son (D., Col.), and McMahon (D., Conn.). It has chosen William Simon, a lawyer, of Chicago, as its general counsel. Simon also will direct the public relations of the committee. He has had experience in Sherman Anti-Trust, Federal Trade Commission, and Clayton Act litigation. He was connected in Chicago with the law firm of Miller, Gorham, Wescott, and Adams. During the war he was attached to Task Force 58 and to Admiral Halsey's Third Fleet, on the USS Essex. He apparently is new to the habits and *mores* of the capital, and there is considerable curiosity about the manner in which he will develop his undertaking. His staff will consist of eight persons: two assistant law counselors, one economist, a chief clerk, and four general aids. None of the names of these helpers were available when this was written, nor was it yet possible to announce the names of the 25 members of the advisory council, representing various parts of the national economy.

There will be three top-flight labor members, three members from the farm group, three economists, two Chamber of Commerce leaders, and representatives of light and heavy industry, as well as outstanding champions of buyers and sellers, including the retailer and the consumer. It is the intention to make the advisory council chiefly representatives of intermediate and smaller business. There will be few, if any, representatives of Big Business on the council. The largest firm invited to appoint a member is the Jones and Laughlin Co., steel makers, of Pittsburgh. This firm is considered relatively small in steel, but it is large in its size as related to other smaller business. The council is expected to meet to get acquainted some time in September in Washington. A month later it will have another meeting, possibly in New York,

to explore the purposes of its existence. Its third meeting is planned to give it an opportunity to supply its considered conclusions in regard to the objectives of the Capehart Committee. Senator Capehart very sincerely hopes the advisory council will give his committee essential aid. It has not yet been decided where the council meetings will be held after the initial meeting.

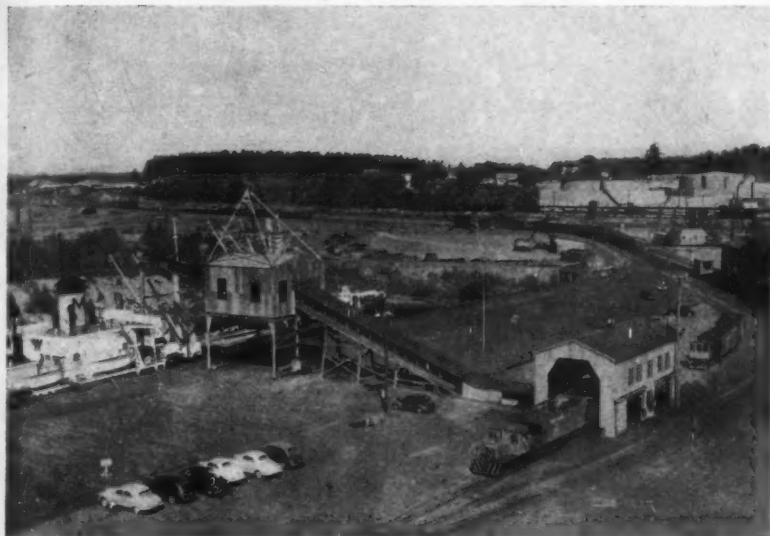
But it has been planned that the committee itself will hold three hearings, at which the public will be welcome, and the testimony of the members of the national economy will be heard. In all likelihood the first hearing will be held in New York City. This will enable New England, as well as the immediate East and the South, to send representatives in a day or less travel time. The next hearing may be held in Chicago. This is the focal point for the Mid-west and for the very important Great Lakes region, as well as for part of the Mississippi Valley. The Chicago hearing is expected to be the great gathering for industry and commerce. The general plan is outlined to consist of three hearings. The third hearing generally is expected to take place at Kansas City. But there is much feeling that this hearing should go farther west. Therefore, it is probable it may be held in Denver. This will enable the industrialists and businessmen from all parts of the Far West to fly to the hearing within a few hours. There is probability, if the demand is insistent, that four hearings may be held, the third taking place in Kansas City and the fourth in Denver.

There is little doubt that every member of the Capehart Committee will be present at these hearings. It is particularly stressed by the senators as well as by the general counsel, Simon, that the committee urgently hopes members of the economy will appear in number to give the committee their testimony and advice. The surveys thus far made by various agencies are confusing. The first survey apparently revealed that

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PROGRESSIVE PORTS

(Continued from Page 48)



Handling facilities at Pier 5, Municipal Terminal No. 4. A belt conveyor links water and rail transportation into a coordinated and efficient system for the handling of bulk commodities.

floating cranes, one owned by the commission, the other by a private firm, each of 85 tons capacity. They were obtained from the army, and are of great use in assisting vessels to load or unload heavy lifts. They have extreme flexibility and supplement the two present stationary stifflegs of 125 tons capacity, owned by the commission and the War Assets Administration.

Other heavy lift equipment recently acquired by the commission, of great help in the handling of all types of cargoes, are three locomotive Diesel cranes, one of 30 tons and one of 25 tons capacity. They are particularly suited to the "clam-shelling" of bulk commodities.

Pier 5, Municipal Terminal No. 4, boasts two bulk handling facilities of the latest mechanical handling design, known as the bulk handling plant. One of the systems is known as the bunker facility, and is, according to officials, the only true bunker plant on the Pacific Coast. It consists of eight individual concrete bins under

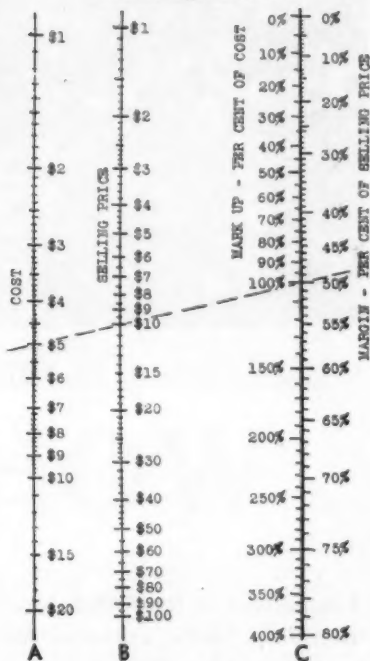
cover, with a capacity of 10,000 tons of coal. This enables a shipper to accumulate a full cargo without the worry of railroad-ship connections and rail car demurrage penalties. The system operates on a belt conveyor method and comprises a car unloading pit for dumping hopper bottom cars and a tower and spout for loading vessels. An accompanying illustration shows the complete operation, from the cars being unloaded and pulled into position by the small locomotives, to the coal being loaded into a ship at the other end of the tower. This continuous handling, of course, saves considerable time and money.

To augment these bunkers a new facility has been built into the slip adjacent. It cost approximately \$150,000, and operates on a similar principle. No covered bins are available, but open area where 20 to 25 thousand tons of bulk cargo can be stockpiled is contiguous to the unloading pit. New electric portable conveyors are now being installed to move these stockpiles to the systems unloading pit or

supplement the fixed structure by conveying direct to the waiting vessel.

Electric car shakers and other modern features are part of both these facilities, and the entire system has a working capacity of 250 to 400 tons per hour. Two vessels can be loaded at the same time, and under that condition, the plant has a loading out capacity of 500 to 800 tons per hour, depending on the weight of the commodity handled, a car unloading capacity of 120 a day, and a total storage capacity, covered and open, of 30,000 tons, or three full shiploads.

Mark-Up Chart



Here is a method of figuring the often confusing relationships between cost, selling price, mark-up and margin. This simple chart, prepared by W. F. Schaphorst, M.E., solves mark-up problems instantly, without any figuring whatever. In the example shown on the chart, the cost of an article is five dollars and the selling price \$10. A ruler is laid on the chart, connecting these two figures in the columns A and B, and intersecting column C to show a mark-up of 100 percent and a margin of 50 percent. The chart is also applicable to larger or smaller amounts, five and ten cents, or \$500 and \$1,000; only the decimal point must be moved. Column C in itself gives a standing relationship between mark-up and margin. Any given mark-up will show the margin, and vice versa. The mark-up varies from zero percent to 400 percent, and the margin from zero percent to 80 percent.



Wheelbarrow type freight car mover.

LONDON'S

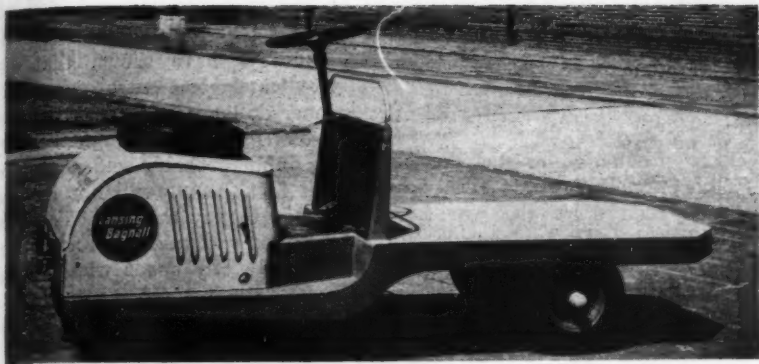
The success of the British Materials Handling Show, held in London July 12-21, revealed industry's awareness of the pressing need to cut handling costs through the use of modern equipment and techniques in production and distribution if Britain's former competitive position in world markets is to be regained.

By **FELIX WIRTH**,
Special Correspondent

THE importance of scientific planning of materials handling was emphasized in the Mechanical Handling Exhibition and Convention, held in London July 12-21. The show aroused considerable interest in British industrial circles. Fourteen gov-

ernment departments and 77 associations and professional institutions accepted invitations to participate in the event sponsored by the London journal *Mechanical Handling*. Sir Stafford Cripps, Chancellor of the Exchequer, took part in the opening ceremony.

Seventeen papers covering ten different industries and dealing with such problems as "Handling in the Motor Industry," "Handling of Railway Freight," "Aerial Ropeways," "Coal, Coke and Ash Handling at Power Stations," etc., were read. One hundred

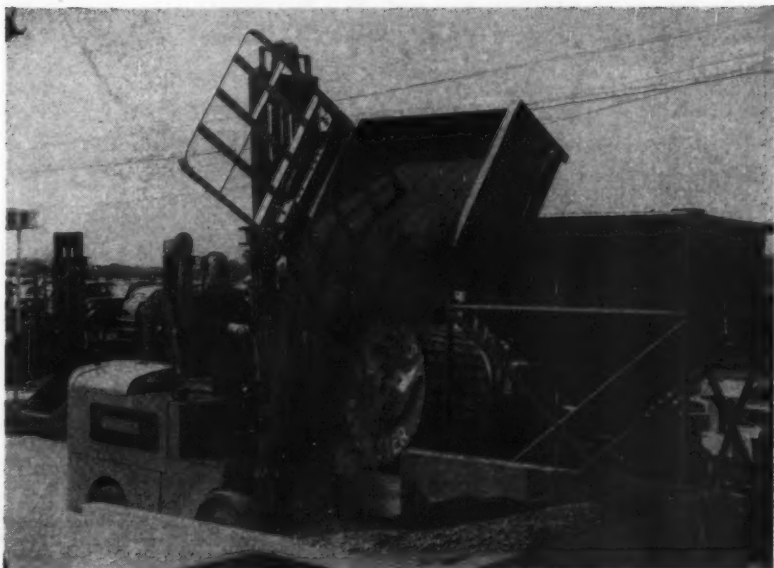


Small electric platform truck designed for use with trailer.



Fork Lift Truck with dump scoop attachment.

HANDLING SHOW



This Fork Lift features a slide dump attachment.

thirty British firms specializing in the production of various handling equipment underscored these theoretical considerations by practical demonstrations. A \$40,000 color film of plant and equipment in operation in various

(Continued on Page 79)

BUYERS' MARKET

(Continued from Page 53)

is the foundation upon which American business was built; more than any other single factor, it has enabled industry to create better goods at lower prices than any other civilization has ever dreamed of.

May I repeat, we should not fear the buyer's market. While it prevails, industry has its best opportunity to serve more people better. It has its best opportunity also, incidentally, to show the world—including itself—that free enterprise can provide a better and richer life for its society than any form of planned economy.

Production and distribution, of course, are the entirety of any business endeavor. And getting ready for the buyer's market, I think, consists simply of refining both those processes to the highest point possible. During the past few years, business in many instances has found it unnecessary to maintain the maximum standards of

either production or distribution. While American factories both during and since the war have established all-time records for production, those records have sometimes been of quantity at the expense of quality—it would be naive to ignore the fact that industry has produced a certain amount of goods of inferior quality, goods which the public would refuse to buy at half the price in a buyer's market. Distribution similarly has often been neglected for the simple reason that many of its processes have been unnecessary—most goods could be sold readily without salesmanship, service, quick availability, etc.

Buyers' Market

Getting ready for the buyer's market obviously means improving both distribution and production, and both are probably of equal importance. In most businesses, however, the improvements which

will be most effective with the least delay lie in the distribution field.

Surveys have shown that approximately 59c. out of every consumer dollar goes to pay the cost of distribution. Although the buying public probably seldom realizes that fact, people will not long be willing to pay that 59c. Their resentment will take the form of refusing to buy goods whose prices exceed their value because the manufacturer distributes uneconomically. Conversely, the manufacturer who finds ways of reducing the 59c. distribution cost will have a marked and potent advantage over his competitors.

Sales, of course, are what create demand for production; and quantity production, generally means lower unit costs. Salesmanship thus obviously is one of the principal means of providing more people with the goods that make up a higher standard of living at a lower cost. But that can be true only of salesmanship of the highest level—salesmanship which never attempts to sell a product which the prospect doesn't need or which cannot perform a useful service for him. Salesmanship consists primarily of leading the prospect to three conclusions—that he needs some commodity which he does not presently have, that the product you are selling meets that need, and that he needs it now. But the salesman himself must firmly and honestly believe those conclusions if his salesmanship is to be sound, if it is to contribute toward efficient distribution.

It is axiomatic to say that the level of salesmanship depends upon the ability of the salesman. Automatically, then, sales selection and training must be an important part of every firm's "buyer's market" program. The turnover in the selling profession is notoriously high, and that turnover is expensive—expensive in terms of wasted money, lost sales and dissipated public good will. Reduction of the turnover in sales personnel—through improved selection and better training of salesmen—can contribute materially toward reducing that 59c. distribution cost.

In case there is any doubt as to

(Continued on Page 74)

Loading Docks on Wheels



In the recently completed bottling plant and city delivery station of the Minnehaha Water Co., Cleveland, four Fruehauf trailers literally operate as "rubber-tired loading docks."

One trailer brings bottled water to the plant from a spring 17 miles away. The driver uncouples the trailer, leaves it at the plant for unloading onto city delivery trucks. A second trailer receives the empty demijohns as they are returned from city routes. Meanwhile, the driver returns to the spring with a load of empty bottles, and picks up the fourth trailer, loaded, for return to Cleveland. The process is then repeated to keep the supply flowing.

Ordinary loading docks are eliminated. Two trailers are always left standing at the city station for loading and unloading, one is at the spring, and the driver is en route with the other.

Minnehaha officials have found that by using trailers their truck not only hauls bigger loads, but need never stand idle. Operating and maintenance costs are reduced. Fewer trips are needed and double handling is eliminated entirely.

WASHINGTON NEWS

(Continued from Page 60)

80 percent of those questioned wanted to function under the law as it was enunciated by the Supreme Court in ruling out the basing point system. But the subsequent surveys, undertaken in one instance by the same personnel that makes the census samplings, apparently revealed that the greater majority were not in favor of the upset in the basing point system application.

The advisory council has as its head Dr. Melvin Thomas Copeland, Director of Business Research for Harvard University's School of Business Administration. Dr. Copeland said that there is increasing confusion among businessmen all over the country as to the meaning of the Supreme Court decision. Not only are businessmen confused, thinks Dr. Copeland, but so are economists, lawyers, financial writers. When companies within the same industry turn to their legal staffs, they get widely divergent and even directly opposite interpretations. Unfortunately the confusion is getting worse, not better." A question often asked is, will the Supreme Court decision increase or decrease the price the consumers must pay for finished goods? Dr. Copeland hopes the committee, with the aid of the advisory council, will be able to determine what pricing policies will best serve the competitive forces of free enterprise and the economic stability of the nation.

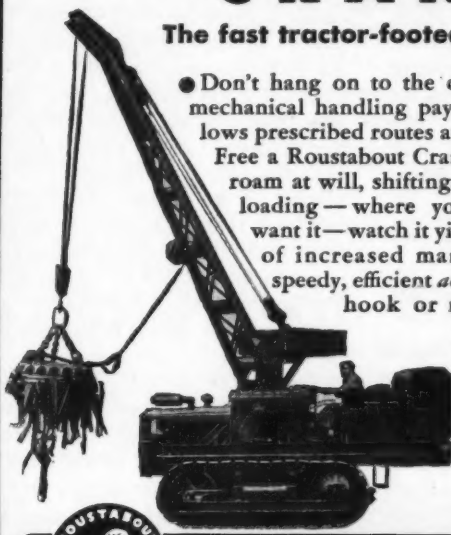
The first hearing of the committee, to be held in New York, is programmed for November, shortly after the election.

A study recently issued by the National Security Resources Board, asserts "Attention must be directed to the risk of a possible enemy attack against industry. The immediate objective is to impress upon industrial leaders urgency, not because a national emergency is necessarily imminent, but because 12 to 14 billion dollars

(Continued on Page 76)

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COST OF SMALL ORDERS

(Continued from Page 21)

handling. To more accurately determine these facts, a further study, termed product evaluation, was undertaken. In determining the cost of distributing a product under product evaluation, five factors contributing to cost and profit were predetermined, namely:

1. Gross profit.
2. Average yearly inventory turnover.
3. Average dollar value per invoice line.
4. Cost of warehouse labor.
5. Cubic feet of warehouse space.

Product evaluation cannot be developed by manufacturers. Distributors must initiate it, as all the facts and figures must come from the distributors' own records.

The first step in product evaluation is for a group of distributors to establish, preferably through an independent auditor, a unified cost system so that each distributor will charge into the same expense account *exactly* the same cost items. In this way, all the distributors in the group, who should be operators in the same general area, will be using the same cost language. After a unified cost system has been established, each contributing distributor should supply to the independent auditor all details of his cost figures, which would then be compiled with those of the rest of the group. When the final detailed cost figures are distributed to the contributing members, no distributor's name will be disclosed in connection with his figures. In this way, no distributor knows another distributor's costs, but each distributor can compare his own costs for each of his operations with the average cost for the same operation to all of the other contributing distributors.

Experience has proved that product evaluation, to be most effective in evaluating different products, is best done by a point rating system. Through the point

rating system, a mathematical value is given to each of the five factors noted above in relation to its importance. When product evaluation has been applied to specific products, it has not only reduced costs for the distributors, but, for the first time as far as I know, it has enabled distributors to show their sources of supply what each manufacturer's product is worth to that distributor in comparison to other products. In every instance, it has demonstrated to these distributors that their cost of a particular operation was higher or lower than the average cost of the group of distributors contributing to the study of the products evaluated.

Product evaluation was used for the first time in 1946 by the Central States Mill Supply Assn., and has now been adopted as one of the major programs of the National and Southern Assns. Fifteen industrial distributors of the Central States Assn. contributed through their own auditors to an independent auditor their figures on the cost of handling several different products. On one cost item, the cost of merely processing an order, the average cost of these distributors was \$1.67. This cost did not include administrative, selling, warehousing and delivery costs. It was merely the cost of the mechanics of handling all the

Materials Handling Show Postponed

The New England Materials Handling Exposition at Boston has been postponed. The committee handling the show has taken this action because of a conflict in dates with the Third Annual Industrial Packaging and Materials Handling Exposition in Chicago.

Another factor in the postponement was the lack of sufficient time in which to prepare for the Boston exhibition. No new date has as yet been set.

paper work. The lowest cost reported by any one distributor was \$1.61, whereas the highest cost reported by any one distributor was \$3.20. Now, obviously, there was inefficiency in the office operation of the latter distributor. Here definitely was an opportunity for cost saving, and as a result of this study, this distributor has changed his order processing and has reduced this cost to bring it more nearly in line with that of his competitors. Since that time, three other distributors in the Central States Assn. have stated that as a result of product evaluation they have materially improved some of their methods, which resulted in considerable cost savings for them.

Among other interesting facts disclosed by the Central States product evaluation was, despite a high dollar value of sales, the continued existence of the large percentage of small orders. While some small orders may be inherent to the product and are thus unavoidable, it is nevertheless true that some products which do have a high frequency of small orders are unwittingly invited by the packaging or pricing practices of the manufacturer himself, or the ordering habits of the industrial purchaser.

Now let us consider one little item, the placing of an order. The lowest official figure I have seen for the cost of placing an order was before the war, and the cost was \$1.27 per order. Naturally at today's wage rates, the cost is substantially higher. You will remember that I stated that 40 percent of all orders placed by consumers were for five dollars or less. At the pre-war cost of \$1.27 for placing an order, this cost of \$1.27 is approximately 25 percent of the value of a five dollar order.

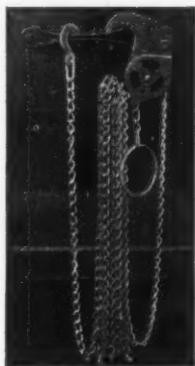
Since the close of the war, an important industrial distributor brought to the attention of the director of purchases of one of the largest manufacturing concerns in the country a few facts concerning the cost of placing orders by his company. Here are these facts:

In one month, July 1947, the Chicago plants of this large manufacturing company placed just over 3,600 orders for industrial supplies. Also, each of these orders had a value of only three dollars or less. If that manufacturer's cost of placing an order was the pre-war cost of \$1.27, and it probably was far greater, that cost alone was enough to convince the vice-president in charge of purchases that a radical change had to be made in their purchasing methods. The change he instituted in all of their plants not only benefited his company, but it was of material benefit to his distributors. It helped distributors reduce their loss on small orders—they received fewer orders but for larger quantities.

Another illustration is that of a large public utility. During a period of three months, this utility placed 473 orders with one distributor, and again the value of each order was three dollars or less. Many of these orders were for broken standard packages of merchandise and a great many of the items had to be back-ordered. However, in their anxiety to secure supplies as quickly as possible, the public utility canvassed hardware stores in its area and picked up for cash any similar items which would serve its purpose. Investigation showed them that today it would cost nearly three dollars for all the clerical work involved in making out an order, recording it, handling the incoming invoice, etc., and yet some of the orders they placed had a value of only 50c.

As a result of the foregoing information, a prominent Chicago distributor instituted a plan by which all orders placed with him for five dollars or less would be paid for in cash. Many of this distributor's competitors believed that this idea was not sound because it would not be accepted by industrial consumers. While the plan was not perfect by any means, it was good enough to enable this distributor to establish a minimum of 10 dollars for cash orders. Cash sales, of course, materially reduce the cost of distribution because they eliminate many

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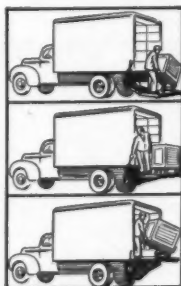
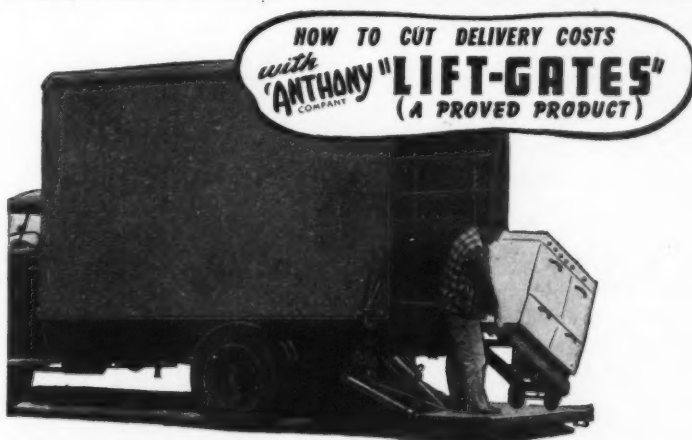
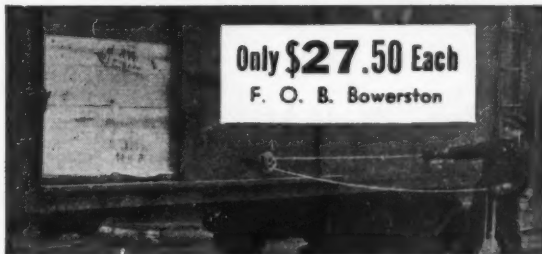
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extra clerical operations.

Many small orders lead to the necessity of manufacturers' adopting, where practical, simplified methods of packaging, pricing and invoicing industrial products to help reduce the cost of distribution.

With this purpose in mind, I recently made a three months' trip covering every section of the country. I talked to 137 distributors of industrial supplies on the advantage to them of packaging our products in units of 1, 10, 100, or multiples of 10, rather than the traditional units of dozen, gross, etc. I also talked to this same group on the subject of discontinuing the outmoded method of invoicing by list and discount and in its stead invoicing at net prices.

There was unanimous agreement that the decimal system of packaging would materially reduce mistakes in quotations by outside and inside salesmen. It would also reduce inventory errors, pricing errors, errors in ordering supplies, clerical work in billing, and clerical work in taking and pricing inventories. These distributors regarded unit packaging as so important that, with only two exceptions, our own distributors urged me to proceed with this change regardless of whether or not others in our industry adopted it. They believed that this change will be favorably received by the majority of purchasing agents.

This same group of distributors was nearly as unanimous in their approval of the change to invoicing at net prices, because of saving in clerical work and its large cost reducing features.

The consumers surveyed included 53 purchasing agents of industrial supplies in such industries as steel mills, automobile manufacturers, farm equipment manufacturers, railroads, other public utilities and many smaller manufacturers. The vast majority of purchasing agents representing these consumers were in favor of this change, although a few stated they did not care whether or not the change was made, and only two opposed it.

The best illustration of the possible cost saving through net pricing and invoicing was given by Mr. Robert Russell, Treasurer of J. Russell & Co. of Holyoke, Mass., a nationally known distributor. He has long advocated the change to simplified pricing and unit packaging and has made this statement:

"Right now we are dealing with such absurd quantities as pairs, dozens, dozen pairs, gross, stones, quires, reams, yards, and rods, and yet the buyers are asking for and require unit costs. By all means, let's pack in units of 1, 10, 100 and 1,000, and price similarly, so we can get the unit price by moving the decimal point, without dividing by 2, 12, 24, 16½, 144, or 480.

"Maybe this sounds simple to you, so let's take a single customer's actual request for a price on 15 sheets of 2/0 flint paper:

1. We look up the list price, which is \$6.75 per ream.
2. We double the list and get \$13.50 per ream.
3. We take a discount of 60 percent, making \$5.40 net per ream.
4. We divide by 480, to get the price of .0113c. net per sheet.
5. We multiply by 15, and end up with 17c. net.

"We cost our individual sales slips and for this purpose we must repeat the above five steps using a discount of 60-32½ percent or 60-32½ and 5 percent if we purchased in single shipments of 25 units. The purchaser, too, has to take all of these same steps in checking our invoice.

"It takes no mathematician to

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see what effect unit packaging and net pricing alone would have on the cost of distribution, when the foregoing procedure must be followed by distributors many times each day."

Without previous analysis, few realize the amount of clerical work involved in the handling of an order. In describing the list and discount method vs. the net pricing method, reference is not made to quantities or descriptions of articles invoiced, as they are the same by either method. Only pricing, extending, and verifying each invoice figure is considered.

Take as an example an order we receive from one of our distributors. When the merchandise is invoiced on the list and discount basis, and before an invoice is finally passed for payment by the ultimate purchaser, there are 24 calculations and checks made of the transaction, as compared to only 12 calculations and checks by the net pricing method.

Thus, net pricing reduces by 50 percent the number of these clerical operations from production of the article to its consumption. In addition, it is obvious that fewer clerical operations lessen the likelihood of mistakes with their subsequent high cost of correction.

When I first suggested the idea of product evaluation to industrial distributors, I expected that a long period of time would elapse before the advantages of this plan would be realized. Frankly, I am amazed and greatly gratified at the speed with which this plan, as well as the many excellent ideas of others, are being put into practice.

Recently, both the National and the Southern Supply and Machinery Distributors Assns. adopted a three point program, the subject of which is as follows:

1. Manufacturers have been requested to provide their industrial distributors with suggested net resale prices wherever practical. Where such net resale prices are not practical, manufacturers are requested to use one single discount to cover their en-

tire line; to eliminate, if possible, the use of different discounts on items of the same class, and to discontinue the unwieldy chain discounts and fractional discounts.

2. Manufacturers are urged to pack their products by the decimal unit system of 1, 10, 100, 500, 1,000, etc.
3. These associations have requested their Research and Planning Committee to consider as its major activity the development of factual information on the cost of handling specific lines; also to develop a formula or method by which industrial distributors can determine what it costs them to handle an individual product.

Positive action has already been taken by a number of manufacturers in regard to some of these suggestions. Since the adoption of the foregoing program the Hack Saw and Band Saw Manufacturers Assns. discussed the subject of unit packaging at a recent meeting. All of the manufacturers present unanimously voted in favor of standardizing in unit packaging effective at the earliest possible date, which was decided as being not earlier than Jan. 1, 1949, nor later than April 1 of the coming year.

When net pricing was discussed by the members of the Hack Saw and Band Saw Assns., it was decided that the industry should not take action and this should be left to the judgment of each individual company. However, our company will adopt both unit packaging and net pricing on Jan. 1 of the coming year.

In the short space of less than a year, the following important packaging and pricing changes have been made by other manufacturers, all of which have an effect in reducing costs of distribution:

1. Most manufacturers in the coated abrasive industry have adopted decimal unit packaging.
2. The Quaker Rubber Corp. recently announced net

pricing for their industrial rubber goods products. I have also been informed that the Goodyear Rubber Co. has been working on a net price schedule for their industrial rubber products, which they expect to put into effect shortly.

3. SKF Industries, Inc., have improved their packaging for small quantities of their Atlas line of steel balls, which, it is expected, will reduce broken package sales.
4. Russell, Burdall & Ward Bolt & Nut Co. recently announced a program of major proportions for distributors' cost reduction through improved boxing, storing and handling of their products. This program is contained in an illustrated booklet issued within the past month, giving the details of all the changes they have made, as the result of months of research by their Engineering Department. In addition, Russell, Burdall & Ward have put into effect a service charge for broken packages to discourage this type of a non-profit sale.

The foregoing manufacturers are not alone in their effort to help reduce the cost of distribution by adopting methods suggested by the distributor associations. Distributors themselves are taking the lead, insofar as they can, in following some of their associations' suggestions.

As an example, a number of distributors are now selling at net prices all the products they buy on a list and discount basis. One of the largest industrial distributors changed to net pricing two or three years ago, with little or no objection from his customers. This change alone has effected an appreciable reduction.

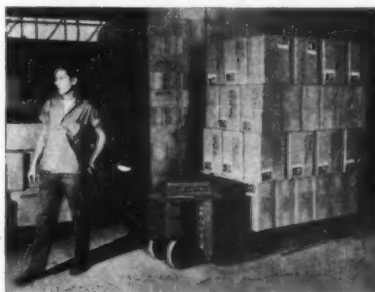
It is known that at least five distributors who now invoice at net prices have issued new catalogs eliminating all list prices. This

(Continued on Page 112)

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Skid platform lifts 4" with 3½" under clearance. Heights 6", 7", 9", 11"; lengths 36", 48", 54", 60", 72" and over. Power unit quickly removable from body. A 6 cell 13 plate battery will give normal 8 hour operation without recharging. Also pallet and high lift models.

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RULE II

(Continued from Page 27)

would be lifted and pallets treated as dunnage, but this hope seems blasted in Rule 11, Consolidated Freight Classification No. 18, which became effective July 1, 1948. The ruling specifically states:

"Unless otherwise provided in this Classification, charges shall be computed on gross weights, except when estimated weights are authorized, such estimated weights shall be used. (The new sentence is as follows) When articles are transported loaded on pallets, platforms or skids, such pallets, platforms or skids must be furnished by the shipper at his expense, and the weight thereof will be charged for at the rate applicable on the freight loaded thereon."

In other respects the wording of Rule 11 agrees with the wording of CFC No. 17. Temporary blocking, racks, standards, strips, or similar bracing dunnage or supports, when used, shall be charged for as provided in Rule 30. The rate on pallets when shipped empty is about 6c. per cwt. higher than on lumber. The higher rate is due to an increase in value. This rate on pallets can't be used, according to Rule 11, when pallets are the means of support for commodities. This means that pallets have various rates, for the rule states that they are to be considered as part of the weight of the freight, and these rates can be either high or low.

Why were *pallets, platforms and skids* specifically eliminated and forbidden as the free dunnage weight by the classification committees? Certainly they are not permanent fixtures. They should be classed as dunnage in Rule 30 under the term "not constituting part of the car." Pallets, platforms and skids certainly meet the requirements of dunnage in Section 1 (a) of Rule 30, for they "protect" and make the freight "secure for shipment;" they are

"furnished and installed by the shipper and at his expense." They do not require any more space than any other form of allowed dunnage. They save time in loading and unloading, for they travel with the commodity, whereas other forms of dunnage can delay a car in departing, for they are installed while loading and removed while unloading. Furthermore, pallets, when used for dunnage, do not have to be "built" as in the case of other means.

Rule 11 as it now stands does

Column A		Column B
Over	Not Over	Estimated or Standard Weight (no. of lb.)
2 x 4 ft.	2 1/2 x 4 1/2 ft.	
2 1/2 x 4 1/2 ft.	2 3/4 x 4 3/4 ft.	
2 3/4 x 4 3/4 ft.	3 x 5 ft.	
3 x 5 ft.	3 1/4 x 5 1/4 ft.	

(other sizes to follow upward in similar scale).

Fig. 1

not serve the "public interest." It has been approved by the Interstate Commerce Commission. The charge is heard that the classification committees have leaned too far in the interest of those who will profit most—the carriers.

Before the rule became effective, protests should have been registered with the commission. The rule should have been postponed for investigation. If no arguments were presented, the ICC, if sincerely concerned with "public interest," could have launched an investigation on its own.

Tables can be set up on the same basis as Rules 40 and 41 and officially placed in the Classifications (rail, water, motor). A practical weight table might be one patterned on those tables used in the rate increases tariffs, X148, 162A and 166A. (Oddly enough, pallets are not listed in the commodity index of X166A, but they are used for an "example" in Rule 6, page 19, of the tariff, effective May 6, 1948.) These tariffs contain rate tables, and

similar tables for pallets could be set up for size and estimated weights, as shown below.

An appeal was not made, but it isn't too late to do something. A petition should be presented to the ICC calling for the rule to be docketed for hearing. Investigation and suspension procedures are long-drawn-out, expensive affairs, but they are worth the effort to secure correct results.

Commercial pallets at present are built for specific applications. In order to secure the lowest cost for distribution and transportation, pallet makers cooperate with customers in every way possible. For standard sizes, there should be a table of weights and meas-

ures set up. Rates for the various territories could then be figured on that basis. Tariff tables have been set up on the poundage basis for weights of gas and oil. Oil rates are mostly computed on the basis of 7.4 lb. per gallon. Gasoline rates are based on the tables for Official Territory in Jones 130-C ICC 3926, Supplement 160, Item 12200 B of the Exceptions. Tariffs are mostly carried in those territories not covered by OC. Since this practice has been adopted with gas and oil, why not a standard table for pallets? Certainly this would be more just than the present arrangement.

Standard specifications for shipping containers have been made legal in Rules 5, 40 and 41 of CFC. Penalties are provided in that a higher rate is charged or the containers of those who fail to abide by the requirements are rejected. Rules 40 and 41 require printed facts as to strength, weight, etc. The maker has official approval certified on the stamp he applies

(Continued on Page 78)

WHO SHOULD PAY FOR PACKING

(Continued from Page 25)

full packing, the seller should no longer object to complying. Should he agree with the seller that overpacking is superfluous, then the shipper should not have to assume the burden of this expense if the receiver still desires it.

This situation often arises when special packing specifications are supplied by the purchaser. A distributor of medical goods may specify, in addition to ordinary packing precautions, a moisture-vapor barrier not ordinarily needed. Here, the manufacturer may feel it justifiable to work out an added cost arrangement; or again, he may feel that it is to his advantage to get distribution for his line in Hawaii and agree to assume the cost of this additional packing as a part of his normal business expense.

sales organization and national advertising programs become expensive and prohibitive if there is not national distribution and acceptance either in hand or in sight. Sales efforts are wasted efforts if prospective buyers cannot find the advertised goods in their locality. Therefore, it becomes smart merchandising to win general distribution regardless of the cost. When distribution is a primary consideration, goods should be gotten out in good order without quibbling over who is to pay for the unusual packing that is required. In the end, the seller gains. What is true in the national picture is equally true in the international field.

A final illustration to emphasize this point: some years ago a young, cub salesman for a well-known national product, working the Norfolk, Va., territory was in a quandary. He had his first big order, but he hesitated to send it in. The buyer had specified not only unusual export packing but wanted assurance that the contents of the shipment would be packed to withstand sub-freezing temperatures over a twelve-month period. Not knowing what else to do, but with a great deal of misgivings, this salesman sent in his order so that at least he would have a formal turn-down to show his customer.

Fortunately the sales manager was a man of imagination who wanted his products known in every corner of the earth. He therefore immediately sent the young salesman the following telegram:

"ADVISE ADMIRAL BYRD WE ARE NOT ONLY PACKING MERCHANDISE EXACTLY AS SPECIFIED BUT ARE SHIPPING AT NO COST AS OUR CONTRIBUTION TO ANT-ARCTICA EXPEDITION STOP MANAGEMENT EXTENDS CONGRATULATIONS TO YOU IN HAVING OUR PRODUCT OFFICIALLY ACCEPTED FOR LITTLE AMERICA."



Universal Cotton Clamp

This Clark universal cotton clamp, capable of handling up to three bales is easily adjustable to two positions, the outer, with spread ranging from 40 to 64 in., and the inner, with spread ranging from 16 to 36½ in. Sixteen different bale combinations can be handled by the new clamp attachment. The new attachment was demonstrated at the recent annual convention of the National Cotton Congress and Cotton Warehouse Assn. at Augusta, Ga.

Special packing and crating is closely related to merchandising—especially for the manufacturer of advertised goods. National

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INTEGRATION

(Continued from Page 47)

tribution where the standard can be applied. Where standardization has not as yet been undertaken, it should be an unwritten law that preferred numbers be considered. In areas where standards are in existence, consideration should be given to the future use of these numbers. In many instances, ranges of sizes, capacities of vehicles, ratings of equipment, and other factors in distribution can, with but few modifications, be made to agree with one of the four series of preferred numbers.

A second means of attaining integration automatically in distribution is by greater emphasis on the process of simplification. If there are 322 sizes for corrugated boxes used in department stores, it is fairly obvious that smooth coordination between retailing, wholesaling, storing, and other phases of marketing will be more difficult than if there were 75 such sizes. Problems of shipping, handling, warehousing, and manufacturing would logically be fewer if there were 75 instead of 322 sizes.

A major agency concerned with the important task of simplifying products and eliminating excessive and needless variety of sizes, types, and dimensions of manufactured products is the National Bureau of Standards. The reduction in sizes of corrugated boxes from 322 to 75 mentioned above is not a fictitious example; it is a direct result of Simplified Practice Recommendation 128-41, one of the 225 such recommendations promulgated by this important governmental standards body.

The National Bureau of Standards, as many readers know, does many other jobs as well. The functions of this Bureau can be seen from the following quotation taken from the Congressional Act of March 3, 1901 which charged the National Bureau of Standards with "the custody of standards; the comparison of the standards used in scientific investigations,

engineering, manufacturing, commerce, and educational institutions with the standards adopted or recognized by the government, the construction, when necessary, of standard, their multiples and subdivisions, the testing and calibration of standard measuring apparatus; the solution of problems which arise in connection with standards, the determination of physical constants and the properties of materials, when such data are of great importance of scientific or manufacturing interests and are not to be obtained of sufficient accuracy elsewhere. The Bureau shall exercise its functions for the U. S. Government; or for any scientific society, educational institution, firm, corporation, or individual within the United States engaged in manufacturing or other pursuits requiring the use of standards or standard measuring instruments."

Reduction of Varieties Effected by Standardization

Item	Varieties		
	Before Simplification	After Simplification	Percent reduction
Abrasives products, coated	8,000	1,865	77
Asphalt	102	11	89
Bags, glassine	124	26	79
Bags: paper, notion & millinery	188	28	85
Barrels, steels; and drums	66	26	61
Boxes: folding, 1-pound for coffee	100	2	98
Boxes: set-up	1,084	194	82
Cups, ice cream	16	5	69
Galvanized ware, tinware & Japanned ware	1,154	873	24
Lath, metal	125	29	76
Lining, brake, automobile	100	37	63
Packages, salt	71	38	46
Refractories, malleable foundry	188	25	87
Wheelbarrows	125	27	78

To list, even briefly, the specific tasks undertaken by the Bureau as result of this directive would require more space than is here available. A run-through of a few clippings taken from the daily press might serve to present an inkling of what this Bureau does.

Item: "Newest unit of the National Bureau of Standards is a National Computing Center which is slated to find short-cuts to many statistical tasks..."

Item: Article dealing with plane crashes tells how an inspector from the C.A.B. assembled the tail assembly of the crashed plane and "shipped them off to Washington for exhaustive scientific tests at the Bureau of Standards. The bureau is to plane-crash experts what ballistics experts are to a homicide squad..."

Item: "Dr. E. U. Condon, director of the N.B.S., has assumed chairmanship of a new bureau, Division of Atomic Physics."

Item: "The United States Bureau of Standards [sic] is warning motorists against use of harmful anti-freeze solutions this winter that might ruin engines and corrode auto-cooling systems..."

Item: "Commercial Standard CS 35-47, Plywood, Hardwood and Eastern Red Cedar... is announced by the Division of Trade Standards, N.B.S."

Item: "The inquisitive people at the Bureau of Standards have built three typical plumbing systems out of transparent pipes, so that they can see what happens when the watter is turned on."

Item: "The Bureau of Standards is creating new ultra-fast electronic 'brains' that will make possible accurate long-range forecasts of storms..."

Item: "A machine built for the Census Bureau by the National Bureau of Standards will do the 1,800-hour job (of tabulating customs declarations) in 36.5 hours."

Suffice it to say, the Bureau is indeed a busy and a useful one.

(Continued on Page 76)

REGULATION OR REGIMENTATION

(Continued from Page 59)

regulation of an industry too far if a government agency should be entrusted with the delicate job of determining the necessary extent of this industry's activities by imposing a rate structure designed to eliminate some and to encourage other members of the profession? No statistics, no analysis and no mastermind will be able to forecast future trends. To petrify an industry, to reduce it or to push it into a prejudged direction, borders on a regimentation of free enterprise, which is certainly not consistent with the philosophies of the shipping public. Rates, maximum and minimum rates as prescribed by the commission, should be maintained in order to reconcile divergent interests and to eliminate extreme swings of the price pendulum. But this powerful weapon for the protection of our national economy should be used *only after the free flow of demand and supply has created a well-nigh equilibrium.*

We have purposely dealt here

only with some of the marginal problems in a comprehensive analysis of the economy of the motor carrier industry. We have attempted to restate the position of the operating ratio as the best—although not always infallible—yardstick for the regulation of motor carrier rates. We have had

then to clarify some of the minor issues because, of late, they have been overemphasized beyond their true impact upon the carrier's economy. From here we hope to proceed to an examination of the crucial question: Is this industry mature enough to permit the creation of a rate structure based upon its own cost experience, and can we develop rate formulae which will combine a maximum of uniformity with the necessary minimum of elasticity?

TABLE IV
Average Income of Employees

	Railroads 1945			
	Executives, Officials & Staff Assistants	Professional & Clerical & General	Maintenance of Way Structures	Maintenance of Equipment & Stores
	\$6,272	3,158	3,631	3,863
			2,408	4,139
			3,558	
	Motor Carriers 1945			
	Common Carriers Own Equipment	Common Carriers Leased Equipment	Contract Carriers Own Equipment	Common Carriers Special Commodities
Officials, Owners & Partners	\$7,639	7,508	6,694	7,803
Supervisory, Equipment	3,770	3,663	3,779	3,920
Supervisory, Transportation	3,414	3,738	3,472	3,401
Supervisory, Terminal	2,794	3,015	3,390	2,819
Sales & Tariffs	4,426	3,899	3,120	4,500
Insurance & Safety	3,135	3,256	....	4,066

Source: ICC Bureau of Transport Economics.

Books and Catalogs

BUSINESS PHILOSOPHER AND PROFESSIONAL SALESMAN, THE, 8-p. semi-monthly publication, designed especially for sales executives, salesmen and dealers. The publisher, Human Engineering Institute, 328 W. Lovell St., Kalamazoo, Mich.

MATERIALS HANDLING CATALOG, 4-p. condensed catalog, featuring a tabulated summary of principal specifications of fork-lift trucks, towing tractors and tractor models. Dimensions, weights, capacities, and turning radii are given for all models, both gas-powered and electric battery-powered. Industrial Truck Div., Clark Equipment Co., Battle Creek, Mich.

MORE TALK ABOUT AIR TRAVEL, a sequel to a similar report distributed last year which received widespread attention for its frank approach to the problems of scheduled air transportation and what was then being done to overcome them. R. E. S. Deichler, vice pres. sales, American Airlines, 100 E. 42 St., N. Y. C. 17.

FORK LIFT TRUCK OPERATOR'S GUIDE, new and revised edition. The guide, which

was in great demand when originally published some years ago, has been brought up-to-date, incorporating useful operating hints and instructions in line with the most modern, approved handling techniques, including sections on standard fork lift trucks accessories and their operation, valuable suggestions for handling materials and containers of all types and a complete section on load-handling techniques. Towmotor Corp., 1226 E. 152 St., Cleveland 10, O.

PF DECALS, 16-p. illus. booklet, designed to promote decalcomanias made by Palm, Fechteler & Co., Inc., by stepping off the self-promoting roadway long enough to impart useful advertising information about the decal. Palm, Fechteler & Co., Inc., 220 W. 42 St., N. Y. C.

PLAIN HORSE SENSE, 16-p. mailing piece printed on glossy stock in magazine form, giving service tips and current developments in the motor transport field, to be circulated among the 90,000 registered truck-trailer owners. Fruehauf Trailer Co., Detroit 32.

PRUFLOAT LABORATORIES, INC., 4-p. illus. folder showing how to cut costs in

areas where corrosion is a problem. Included in this bulletin are many actual case histories from leading plants in many different types of industries which are now using Prufcoat coatings. Prufcoat Laboratories, Inc., 63 Main St., Cambridge, Mass.

Coming Events

- Oct. 6-9—National Aeronautical & Aircraft Display, Society of Automotive Engineers, Hotel Biltmore, Los Angeles, Cal.
- Oct. 8-13—Annual Convention, American Trucking Assns., Washington, D. C.
- Oct. 14-16—Annual Convention, Southwest Warehousemen's & Transfermen's Assn., Skirvin Hotel, Oklahoma City, Okla.
- Oct. 19-24—Second Annual Kansas Manufacturers Show in Wichita, Kansas.
- Jan. 1-14, 1949—Annual & Engineering Display, Society of Automotive Engineers, Book-Cadillac Hotel, Detroit, Mich.
- Jan. 3-8—Annual Convention, National Furniture Warehousemen's Assn., Palm Beach Biltmore Hotel, Palm Beach, Fla.
- Feb. 7-10—58th Annual Convention, American Warehousemen's Assn., Fairmount Hotel, San Francisco. (Joint meeting of both divisions: National Assn. of Refrigerated Warehouses and AWA Merchandise Div.)

BUYERS' MARKET

(Continued from Page 64)

the effectiveness and the feasibility of sales selection and training programs, let me tell you briefly about one firm which proved the value of such programs—proved it to its own profit and to the satisfaction of all who have observed it.

This firm operates in a highly specialized field, the manufacture of "check protection"; i.e., check writers and signers which prevent forgery or alteration, specially designed check papers which automatically void themselves if alteration is attempted, and similar products. About five years ago, this company's sales turnover was about "normal" in the office equipment field—roughly one-fourth of its new salesmen made good. That turnover was too expensive, in the opinion of company executives, especially since a highly developed training program was necessary to prepare new salesmen to sell the company's specialized products. Just before the war, an extensive program of selection was developed: first, a carefully planned interview procedure, involving special training for all the company's branch office managers, and second, a battery of aptitude tests, measuring the applicant according to half a dozen psychological characteristics essential to successful selling. Effectiveness of the program is clearly demonstrated by the fact that today 67 percent of all new salesmen hired by the company remain on the job and make money for themselves and for the company. Scientific selection, in other words, reduced the sales force turnover by nearly two-thirds.

Another important aspect of distribution, and one which the buyer's market will accentuate, is materials handling. The importance of materials handling can be summed up in one short sentence—22 percent of the entire American industrial payroll is made up of materials handling costs, ac-

cording to government studies. The tragedy of that fact lies in the fact that the high cost of handling materials is totally unnecessary; by careful planning and efficient use of mechanized equipment, many firms have cut the cost of materials handling by as much as 50 and 60 percent. According to innumerable surveys—materials handling equipment which lasts from ten to twenty years amortizes its cost in an average of 30 months, if efficiently utilized.

In my own industry of course, materials handling is of special importance since the handling of goods is the essence of warehousing. The concern which warehousemen feel today toward improvement of their materials handling processes is reflected in a recent survey conducted by the American Warehousemen's Assn. Results showed that 62 percent of the association member warehousemen planned to increase the mechanization of their handling system, while 32 percent reported that they were already virtually as completely mechanized as possible—leaving only six percent who were satisfied with less than the maximum mechanization possible.

Another demand which this coming buyer's market will make upon industry is that of service—only the very best possible customer service will enable a firm to compete successfully in the coming months and years.

This service will have to include a multitude of phases. Thorough maintenance of your product, once it is sold, will be more essential than ever before for those businesses producing operating equipment. Of special importance will be quick and easy availability of commodities. Customers will not be content to wait for the goods they order if a competing firm can make immediate delivery. Transportation schedules, thus, must be

carefully planned and spot stocks must be maintained in all strategic market areas. Efficient warehousing of goods in those areas will become more and more vital. That is the primary reason, incidentally, that my own particular industry—the public warehousing business—has ever since the end of the war devoted constant and concerted attention to studies of more efficient and economical ways of rendering the best possible services—storage, handling, traffic, etc. Service is probably even more important in our industry than in other types of business, since service is our product—it is the only thing we "manufacture," so to speak, the only thing we have to offer. The same principles, however, apply to any industry—the type of service which manufacturers can offer will determine in many cases which of competing products will be purchased.

Finally, relationships between business on one hand and its customers and the general public on the other will continue to multiply in importance. Your advertising and public relations programs, in other words, will increase rather than decrease in importance as market conditions become more competitive.

Employee and community relations are closely related to each other. In some senses, they are identical, for the employee is obviously a part of the community. When a plant improves its relations with both its own personnel and its neighbors, it obviously improves the efficiency of its workers. Human beings, of course, tend to be influenced by the opinions of other human beings, and almost invariably, a worker will be happier and thus more efficient if his neighbors hold his firm in high regard. The role of the business firm as a citizen of its community has multiplied during the past few decades, and it is clear that it will continue to grow in the future.

In summary, I personally do not feel that "getting ready for the buyer's market" necessitates any revolutionary changes in our business procedures or policies.

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HEADACHES

(Continued from Page 51)

"Oh, yes," exclaimed Gordon, "I'm frequently bored by wails from some of our people because they had to pay a slight extra charge for failure to purchase a train ticket at the depot."

"Just the same," stated McCormack, "a conductor's penalty charge, if reasonable in amount and in the condition under which it is levied, is proper."⁴

"Even so," McCormack added, "there have been instances where railroads have overstepped the mark. The failure of carriers to make a conductor's penalty charge, in addition to the regular fare, against intrastate passengers who board trains without tickets at points where they might be purchased, while maintaining such a charge against interstate passengers, or lower penalty charges intrastate than interstate, is unduly prejudicial to interstate passengers, unduly preferential to intrastate passengers, and unjustly discriminatory against interstate commerce."⁵

"Expired date on part of a railroad round-trip ticket is another cause for bellows of rage from our officials and others in the company," Gordon commented.

"That's surely an unfair position to take," McCormack insisted, "because refusal of a carrier to honor a portion of a round-trip ticket is not unreasonable when the passenger fails to use it before the expiration date fixed therefor."⁶

"At any rate," Gordon said, "I am sometimes given credit for my efforts. A few weeks ago one of our employes, a woman, asked me to obtain train reservations for her and a daughter. Almost at the last minute the daughter caught a cold. Separate bedrooms were then desired. I succeeded in getting

connecting rooms. Upon their return from the trip the lady congratulated me on the excellent job I had accomplished. It's little things like that that compensate one for the other irritations."

"I presume you are called upon for airplane reservations, too?" McCormack inquired.

"To be sure," answered Gordon. "The other day I had a call from one of our representatives for a plane reservation for the following Tuesday. Before flight time I received a telephone message from the gentleman. He surely was excited. He reported that the scheduled flight had been cancelled on account of weather conditions. He said he had to keep his appointment not later than Wednesday. I immediately got in touch with the local railroad. Despite such short notice I was able to reserve a compartment for a train leaving that day, Tuesday. Our man arrived at the appointed place on Wednesday in plenty of time for his business engagement."

"Gosh," ejaculated McCormack, "it's evident that your company puts out a great deal of money for the traveling expenses of your officials and employes."

"Without question," retorted Gordon. "Actually the company spends about \$200,000 yearly, most of which is for passenger trans-

portation. However, some of that expenditure includes the moving of household goods of our officials and employes."

"I understood that the moving of employes' household goods came under your jurisdiction," said McCormack. "In such activity do you use the facilities of the railroads or those of the household goods carriers operating by motor truck?"

"Moving employes' household goods by the railroads is too slow and too costly," Gordon asserted. "In the first place the rail carriers will not accept the goods 'as is,' but require special packing, crating, etc., which really costs as much or more than the freight charges. Then, too, the railroads do not furnish pick-up at origin or delivery at destination. All in all, cost and service considered, it's far better to use household goods motor truck carriers, no matter what may be the distance."

"I imagine you have some odd experiences in directing the moving of these household goods," McCormack suggested.

"I'll say I do," chuckled Gordon. "Some time ago one of our district sales managers had to move. Among other things he had five or six year's accumulation of old magazines stored in his cellar. He wanted to take them with the rest of his stuff. I tried to dissuade him, but he insisted. So, along with his other goods, we moved the magazines, although they completely filled 30 orange crates."

"Another time," Gordon went on to say, "we shipped a large piece of furniture for an employe of the company. It was delivered to his home by common carrier motor truck. When it arrived our employe's wife telephoned me. She said the article was too large to be moved through the doors of the house. She wanted me to instruct the truck driver and his helper to remove a window and window-frame in order to get the furniture into the front room. Beat that one if you can!"

But McCormack merely shook his head.

NFWA Public Relations

A nationwide publicity campaign for 1948 has been announced by the National Furniture Warehousemen's Assn. It will be exploratory in nature and is intended as a preliminary to eventual adoption of broader public relations activity, which will embrace both advertising and publicity. The decision to undertake the program was reached at the association's 27th annual convention in Palm Beach in January. It will be in charge of the public relations and advertising committee, Richard E. Joyce, Chicago, chairman, and be directed by Theodore R. Sills and Co. The program will attempt to tell the story of the services performed by furniture warehouses.

¹ 43 ICC 51.

² 65 ICC 469.

³ 227 ICC 644.

⁴ 60 ICC 290.

⁵ 60 ICC 362.

⁶ 40 ICC 65.

INTEGRATION

(Continued from Page 72)

Its work in developing simplified practice recommendations is but one small segment of its overall job. But, it is a tremendously important one. The Bureau does not originate these recommendations; instead, it serves as a clearing house or centralizing agency through which manufacturers, distributors, and consumer groups cooperate in eliminating waste and in reducing the costs of production and distribution. The development of a simplified practice recommendation is charted in Figure 1.

Concrete examples of the effectiveness of this simplification program can be seen from the accompanying table.

The Division of Simplified Practices of the National Bureau of Standards is another means available to distribution for the attainment of greater integration.

A third means for attaining smooth interactions among the diverse phases of distribution has to do with standard nomenclature. Whereas preferred numbers simplify numerical values and Simplified Practice Recommendations do the same for manufactured products or methods, standard nomenclature has the important task of simplifying the language of distribution. Obviously, persons can work together cooperatively only if they speak the same language. Lacking this, there is naught but chaos, à la Tower of Babel. If industrial and commercial means of communication—abbreviations, letter symbols, graphs, charts, blueprints, graphical symbols, etc.—

vary among the various functioning parts of distribution, integration will be unnecessarily difficult.

It is rather obvious that standardization of nomenclature for distribution can not be accomplished by limited-interest groups such as function in railroading, marketing, or materials handling. The task can be carried out by an organization such as the American Standards Association whose interests are national and inter-industrial in nature. Some work has been done in this field: much more remains to be done. Letter symbols and abbreviations for science and engineering are now being developed by ASA Committee Z10, standards for drawing and drafting room practices are in the process of development by a large committee, Z14, on which are represented several phases of American distribution, Committee Z16 has been working on standardization of methods of recording and compiling accident statistics, standards for graphical symbols and abbreviations for use on drawings are the work of ASA committee Z32.

There are in existence many standards for nomenclature which have applicability in distribution. In common with preferred numbers and Simplified Practice Recommendations, they can serve as a cohesive force bringing together warehousing, transportation, materials handling, finance, and the other independent industries which operate in the distribution of goods and services.

Over-Packaging

In his talk, "Are We Over-Packaging or Are We Under-Packaging?" before the recent meeting of the Michigan Division of the Industrial Packaging Engineers Assn., Don M. Wilson, Sutherland Paper Co., stressed the fact that during the war many manufacturers, limited as to the available paper board for packages and cartons, adopted thinner stock, and that since then they have found it adequate and have not gone back to the old quality. He interpreted this to mean that many ship-

pers were over-packaging their products.

After giving several examples of successful reduction of paper grade, he answered the question as to paperboard performance with the recommendation that several packages be made up with the thinner caliper board and sent via the most roughly handled transport to a distant place. This, he said would provide the most practicable test as to strength. He predicted that many would then agree that they were over-packaging.

WASHINGTON NEWS

(Continued from Page 65)

are spent annually for new plants and new equipment. A substantial portion of these plants are being located in highly concentrated industrial areas, thereby increasing vulnerability in the event of attack.

"THERE IS NO KNOWN MILITARY DEFENSE AGAINST THE ATOMIC BOMB ITSELF EXCEPT SPACE. Within the foreseeable future no area in the U. S. will be immune from attack because of its location alone. Highly concentrated areas of vital industry and population will be the most attractive targets.

"Dispersion of industry will go a long way toward combating a potential enemy's effort to cripple our industrial capacity by any mode of attack, conventional or otherwise.

"The staggering cost in material and energy of such extensive attack would require that it be planned so as to accomplish the maximum damage. The scarcity of essential materials for the manufacture of an atom bomb is so great that no country will have enough to afford to use one on each city of as few as 50,000 people, or a congested industrial area of less than five square miles.

"Atom bombs have destroyed almost everything within a half-mile radius of the zero point. Beyond this periphery, and extending to a distance of one and a half miles, they caused moderate damage to all structures.

"To assess the vulnerability of your facilities, draw a three-mile circle about the periphery of your present facilities. List everything within this circle which you believe would be of interest to the potential enemy. With the general information available, some fairly close approximations can be made. The size of your facilities should be the sole influence in your conclusions. A small plant might be highly critical. The fact that your industry is a heavy or light industry has little bearing."

NEW DISTRIBUTION SERVICE

(Continued from Page 32)

tation centers which are strategic to the assembly of needed basic materials, and also strategic to their regional distribution program.

Previously, it has been generally assumed by industrial America that only the very large companies are strong enough to capitalize on the advantages to be gained from such a decentralization program. This is because of the initial large cost usually involved and the probable long delays occasioned by the construction and staffing of such new branch plants.

Griffin has a positive answer to these objections. He believes that his semi-cooperative plan can make available to coordinating groups of middle-size companies essentially all of the advantages expected from big-company decentralization. He also believes that since the basic elements of his plan are so simple in their initial setup and operation, and because of the promise of such immediate profit advantages, the plan will be widely adopted nationally. As he states, "There are hundreds of middle-size companies which cannot afford to staff a branch sales and buying office, maintain a field warehouse, and equip a packaging plant. But with a number of them getting together, they can do it on a cooperative basis."

He further explains that the plan is not strictly a "cooperative," but rather is an organized service unit. He states that the plan has been developed "one step further than a strict cooperative, inasmuch as there are no fixed costs to contribute to the overhead. Sales are handled on a percentage; warehousing is on a per-case deal; and buying and production are on a per-thousand basis." Thus, all of the cooperating companies essentially will have "a complete branch factory, while paying only for what they actually get."

The Griffin branch-plant service is planned to be so complete that it is stated that all their management needs to know about a spe-

cific new "account," is "what territory they want covered, what is their present sales program, how much average warehousing or processing space they will need, and when they want to start." The service is so set up that they can, when desired, also handle for an account its local financing and invoicing needs. The Griffin general motto is, "All we need is your trademark, your reputation and good-will, your formula, and your okay."

The complete setup of the Chicago unit includes the following three interrelated services: 1. field warehousing, 2. buying and production, 3. sales distribution. Of these three, "buying and production" includes the servicing features which are most new and which has been called the "new idea" in specialty distribution.

The Griffin-Continental Corp. has been developing its Chicago servicing unit through a period of about three years. The program had its beginning as a followup of a contract assembly and packaging service organized and managed by Griffin for the army and others during a large part of the period of the recent war. Following the ending of the war, Griffin continued with like assembly and packaging services for a number of different Chicago companies, including such prominent local accounts as Swift, Kraft, Standard Oil and Sears. Chiefly this has included the handling of large-volume packaging of samples or packaging for the experimental starting of new products.

Another lesson which Griffin learned and demonstrated during the war period was that the development of a reliable labor source, available promptly but in the variable total volumes needed in average come-and-go warehousing and packaging operations, was necessary. For instance, the present Griffin servicing plant in Chicago is located in a mixed retail trade and residential area largely

inhabited by persons of the laboring class, but without any near-by large factories or other units of mass employment. Thus it always has been possible to "stir up" any desired total of needed surplus workers on short notice, either previously experienced or easily trained to handle packaging and shipping operations.

The present Chicago Griffin warehousing and packaging operations require the use of about 12,000 sq. ft. of space in two different buildings. The packaging plant equipment is in a three-story building and includes automatic machines with a capacity of 500,000 packages a week. It has been the plan to keep the available services very elastic and subject to prompt adaptation to any possible type of assembly or packaging. There are 14 available operating lines, six of which may be kept in operation at one time. The available labor supply also is highly flexible. The working force usually is variable from 40 to 80 or more and is said to be under competent supervision. The packaging often has included the handling of very large rush jobs. These operations, especially as related to the different out-of-town accounts wanting Chicago distribution services under the new plan, are all placed in the classification of "top secrets," hence visitors are never admitted to inspect these operations. The chief reason, of course, is the fact that certain of these coordinating companies may be somewhat competitive in their sales commodities and their packaging methods.

These packaging services include some of the most distinctive of the features in the new Griffin distribution program. One example is an Iowa manufacturer of a canned liquid product which previously hadn't been having a very good distribution in the Chicago area. He was able, within two months, to triple his Chicago sales volume. This was accomplished through the simple plan of authorizing the Griffin setup to handle the purchase in Chicago, at a considerably more favorable bulk price, of the filler which accounts for a large

percentage of the total per-can weight of the product. This was followed by the company's shipping to Chicago large bulk quantities of the base concentrates of the product; then in the Chicago plant the product was processed into the finished packages. Through these several processing changes the Iowa manufacturer was able to save, from the rail freight angle alone, the neat sum of "eight cents per can."

Another example is in the field of small metal automotive parts. A Connecticut company previously had been getting a considerable percentage of its total list of 84 different parts in bulk from the Chicago area; others were coming from New York, Pittsburgh, etc. These various factory products were all assembled at their Connecticut plant, then again shipped out as the orders came; and it happened that usually more than 50 percent of all of these parts were being shipped right back again to fill Chicago-area trade orders. The firm now is using 1,000 to 1,500 sq. ft. of the Griffin warehousing space, to which they are shipping in car lots, or at full-car rates in pool cars. The exception is that approximately 50 percent of their Chicago sales now need no long-distance shipping, since these parts are made in the Chicago area. Also, the Griffin service now is handling all of their out-from-Chicago deliveries, which are being made on the basis of "next day" to the customer, as against the old plan of unpredictable long delays, plus the l.c.l. shipping charges from Connecticut. This company also anticipates the doubling of its Chicago sales volume.

Like stories could be told about the sales advantages that have resulted from the Griffin plan to manufacturers of other types of products. The program includes, where possible, the bulk shipping to Chicago of product concentrations or the entire product, at full-car or full-truck rates, versus the former small-order shipments at l.c.l. or l.e.l. rates. Then the final processing and packaging and order-fillings are handled at the Chicago plant. An important sav-

ings feature in the Griffin plan is the fact that most bulk materials, ingredients and supplies usually are available at lower cost in the Chicago market, as compared with other less-central transportation points.

The third unit service in the Griffin plan—"sales distribution"—has already been implied. This is being handled through the general supervision of available local brokerage agencies. It has demonstrated that the use of on-the-spot salesmen, even if not exclusively handling only one line, will pay off in the possibility of larger volume sales for an out-of-town account. One of the biggest factors in this part of the distribution program is that the salesman can promise next-day delivery, as compared with the former "we-can't-be-exactly-certain-just-when" talk by such a salesman. The Griffin Chicago unit now has nine salesmen, and also its own products advertising bureau. It is the business of these on-the-spot salesmen to develop new accounts, promptly service the old ones, and thus keep the products moving.

It is the plan to expand the Griffin-Continental program into a nation-wide specialty distribution service through the establishment of a complete chain of such servicing units at what are considered to be the most important transportation centers or areas. In addition to Chicago, it is planned that there shall be associated plants to serve the regional areas of the

Northeast, deep South, West Coast, Canada and Mexico. Already there is an additional Griffin unit in Houston. And it is announced that "within 60 days" four additional large leased plants will be in operation as follows: Bayonne, Jackson, Miss., Los Angeles, and Toronto. Each of these four new plants has available about 60,000 sq. ft. of sprinklered space, is located on a private spur track, has carload storage for liquids, has a central laboratory with a graduate chemist in charge, and represents a half-million-dollar investment in servicing and packaging equipment. Thus, as stated by the Griffin management, each plant is fitted to aid "accounts" through providing decentralization facilities that will reduce freight and warehousing costs, cut inventory requirements and improve regional distribution services.

In the distribution of out-shipments from Chicago, it has been found that a large portion of this shipping can best be handled by motor truck, because of less handling involved and more delivery promptness. For the Chicago in-shipments, to supplement the expected economies in processing and packaging, most of the shipping is via pool cars, or in full-car shipments for warehousing ahead of processing or packaging needs. Thus it is evident that one of the passably largest savings in the Griffin - Continental distribution plan is from such full-car rail and full-truck motor rates.

RULE II

(Continued from Page 70)

to his product.

Such a stamp, in a similar form to that used in Rule 40, might look something like that indicated.

Using the table (p. 70) as an

example, the sizes and weights of pallets should be equalized in the rate which is to apply. The table will cover any pallet whether mass-produced or custom built.

CERTIFICATE OF MAKER

This pallet made of conforms to all construction
(type of material)
requirements of Consolidated Freight Classification.

Testing strength lb. per sq. in. Load limit lb.
(Maker's Name and Address)

LONDON'S HANDLING SHOW

(Continued from Page 63)

industries was shown at the convention for the first time.

The underlying reasons for the success of the exposition included: (despite the generally adverse economic situation of the country) 1. A growing understanding that handling costs play an important, if not decisive, role in manufacturing costs. 2. A desire that these costs be cut to make British industry more competitive in world markets.

There is little doubt that much remains to be done in Britain in the mechanical handling field even in factories using up-to-date methods and machinery. The desire for higher efficiency was given a fillip during the war, when American equipment was brought over to unload lend-lease cargoes, to meet the demands of D-Day and other combined operations. At that time British industry saw for the first time the extensive use of fork lift trucks and pallets introduced by the U. S. forces. The pallet system of handling goods is not nearly so far advanced in Britain as in the United States, although an increasing number of British firms are adopting it, and some manufacturers insist that raw materials entering their plants be palletized, so that no manual handling is necessary at any stage.

Recently the British Admiralty adopted the pallet system for naval stores, which, if it is then coupled with standardization of food and non-food packs, will undoubtedly lead to considerable savings in labor and money. Today British firms produce pallets of all types and dimensions, plywood, soft wood, hardwood, wire, tube, steel. Shortly, an expendable cardboard pallet will also be introduced. Exhibitors confessed that they were unable to cope with the rush of orders and some lag in executing them was being experienced. Palletization is likely to become a word of key importance in British industry in the near future.

Of the new British handling equipment shown, a pedestrian-controlled Universal World Works Truck, manufactured by Tomlison Electric Vehicles Ltd., was noteworthy. It is designed for use in confined spaces and its maximum load is one ton. Its main axle being of differential type and centrally mounted to the chassis, the truck can turn on its own axis.

An electric factory truck marketed under the name of the Electric Eel incorporates the principle of bodyweight steering. This enables the driver to keep both hands on the controls and to steer simply by shifting the weight of his body from one side of the laterally-pivoted platform to the other. The action is said to be instinctive and as precise as the actual coordination of the eye and body.

A development of considerable importance in handling railroad equipment is the B.S.A. truck mover, consisting of a B.S.A. 320 cc. side valve engine with fan-operated air cooling mounted on a wheelbarrow-type chassis. The truck mover, which can be handled by a single semi-skilled worker, is designed to operate in railroad yards and sidings, and is useful for releasing expensive shunting engines for long distance work. The truck mover is run along the rail until the hydraulic ram is under the railroad car. A simple control lifts the ram and thrusts it against the car. The clutch is then engaged and the truck mover moves the rail car along. The mover can shunt up to 100 tons of freight and can operate a turntable. The engine speed is 2,000 r.p.m., automatically governed at all loads, while the average gasoline consumption is three pints per working hour.

In the border area of efforts to speed up production efficiency in workshop and factory is the introduction of a newly patented pneumatic tube circuit. The system, which is based on a single pneumatic tube, permits dis-

charge of cartridges at any of the 20 receiving stations by means of acoustic control without the intervention of an exchange department. The inventors, J. W. Halpern and partners of London, have been operating only a few months, but have already recorded substantial export orders for their "dialed dispatches," particularly from Scandinavia.

To sum up, it can be said that important novelties were shown only in the fork truck and pallet sections. It is obvious that the fork truck has captured the imagination of the British since its wartime introduction by the Americans, and that it is now being studied, re-designed and of British manufacture. As indicated by a growing trend in the United States, the tendency is toward specialization in producing trucks for specific needs and problems. The growing use of pallets is quite naturally regarded by fork truck makers as a potent help in popularizing their product to non-users. It is the firm belief of experts, however, that only the introduction of a cheap expendable pallet and its use as a standard part of packing by most manufacturers can bring on a universal adoption of the fork truck throughout Britain.

GOOD DESIGN

(Continued from Page 31)

On train interiors, for example, where it is desirable to make small spaces seem larger, pale blues and greens tend to give an air of spaciousness. Earthy browns and greens are good for airplanes because they produce a feeling of down-to-earth security. Two tones of the same color often make an object seem smaller.

The designer should strive to solve the problems of production, distribution and sale of a product simultaneously. If a thing works well, it looks well, and consequently sells well.

One of the nicest compliments I ever received was paid me by a farmer who, after looking at a tractor I had designed, said: "If it works half as well as it looks, I'll buy it."

Getting down to *Cases*

By LEO T. PARKER
Legal Consultant

TRANSPORTATION

Things You Can Do

YOU CAN collect transportation charges for goods delivered to a consignee, although another person promised to pay the charges. In *Mayor v. Bennett*, 189 Pac. (2d) 186, Okla., it was shown that a truck driver received certain C.O.D. shipments of plumbing supplies from a supply company consigned to one Contway. When he unloaded the supplies Contway was not present, and he left the shipment at Contway's place of business without payment for the C.O.D. charges. Later it developed that Contway was a plumber working for a building owner named Mayor who had purchased the supplies. The lower court held that the truck company could not recover payment from Mayor, but the higher court reversed the verdict, saying that where a party orally promises to pay for goods transported or furnished another, and the credit is extended to the promisor, the oral contract does not fall within the statute of frauds and therefore is valid.

YOU CAN sue under the Tucker Act for due freight charges, and be awarded a favorable verdict. In *American President Lines v. United States*, 75 Fed. Supp. 110, the court held that a suit in the Admiralty Act is not the remedy if the cargo is owned by the United States.

YOU CAN avoid liability for damage to a shipment by proving that you acted as a private carrier. This rule is applicable although you have a certificate to operate as a common carrier. See *Birkes v. Lloyds Casualty Insurer*, 209 S. W. 438, Texas.

Things You Can't Do

YOU CAN'T combine two certificates or permits and use them to broaden your transportation rights. For example, in *Enid Transfer & Storage Co., Inc., v. State*, 190 Pac. (2d) 150, Okla., it was shown that a motor carrier held two certificates of public convenience and necessity as a Class A motor carrier, permitting transportation of freight from two terminal points. The higher court held that the Public Service Commission could not legally authorize this carrier to combine the service specified by the two certificates.

YOU CAN'T ask assistance of a court to revoke permits or certificates awarded by the Civil Aeronautics Board. In *Chicago & Southern Air Lines, Inc., v. Waterman S. S. Corp.*, 68 S. Ct. 431, the Supreme Court held that orders of the CAB as to certificates for overseas or foreign air transportation cannot be reversed by a court before they are approved by the President of the United States, and

after his approval his final orders cannot be reversed by a court because such orders embody presidential discretion.

WAREHOUSING

Things You Can Do

YOU CAN lawfully refuse to deliver stored merchandise to a person who fails to prove that he is legal owner of the merchandise. For example, in *Frolic v. Republic Warehouse Corp.*, 77 N. E. (2d) 844, Ill., one Frolic sued the Republic Warehouse Corp. to gain possession of stored merchandise, claiming that he had purchased the warehouse receipts representing the merchandise. However, the testimony established that no legal contract for sale of the merchandise to Frolic was ever consummated between Frolic and the owner of the receipts. The higher court held that the warehouse company need not deliver the merchandise to Frolic.

Things You Can't Do

YOU CAN'T refuse to pay today's value of merchandise destroyed through negligence of your employees. In *Saporiti v. Austin A. Chambers Co.*, 58 Atl. (2d) 387, Conn., it was shown that furniture and other household goods stored in a warehouse were destroyed by fire in 1945. The owner sued the warehouseman and proved the original cost of the furniture and its value during the years 1943 and 1944. An expert witness, on the value of such articles, was permitted to testify that the furniture would have cost about 20 percent more to buy at the time of the loss. The lower court decided that the loss resulted from negligence of the warehouse company's employees and held the warehouse company liable for the value of the furniture on the date it was destroyed. The higher court approved the verdict, saying: "Indirect evidence of value was all that could be offered. In determining that value, the original cost of the furniture, the way in which its use had affected it, and the increased cost of buying new furniture were all elements which might properly be considered."

YOU CAN'T depend upon United States weather reports to relieve you from liability for damage to stored merchandise. In *Seaboard Corp. v. Elmhurst, Inc.*, 68 Fed. Supp. 169, the testimony proved that during the night valuable chattels in safekeeping of a bailee were destroyed because of a northeast wind which attained the "unpredicted velocity of hurricane force." The bailee contended that it was not liable because it could not anticipate a storm of such violence, since the United States weather reports predicted only an ordinary storm.

In holding the bailee liable the higher court said: "If company (bailee) is to escape liability on the theory of inevitable accident, then surely it must establish by convincing proof that the disaster was brought about by causes beyond the control of anyone. This it has not done in this case . . ."

PACKAGING

Things You Can Do

YOU CAN use a trademark similar to an old trademark if the public will not be deceived. In *Wilhartz v. Turco Products Inc.*, 164 Fed. (2d) 731, it was shown that a company used the name "Auto Shampoo" and "Car Shampoo" on its packages of liquid soap. Another company started using the name "Hurricane Auto Shampoo." The first company sued the last user, but the higher court refused to order the latter to stop using "Auto Shampoo," saying: "'Auto Shampoo' and 'Car Shampoo' have no subtle or fanciful meaning to us. These words are merely descriptive of the product."

YOU CAN sue and recover full damages from one who negligently damaged a motor truck used in your regular business. For example, in *Holt v. Pariser*, 5 Atl. (2d) 89, Pa., a packing company sued to recover damages resulting from a collision between its truck and another truck. The company asked the court to allow it \$2,305.54, of which \$516.54 was for cost of repairs to the truck and \$1,788 for hire of a substitute truck until repairs were completed 149 days after the accident. The higher court awarded \$2,305.54 damages, and said: "Plaintiff may recover \$1,788 for the hire of a substitute truck until the repairs were completed . . . The truck was hired for 149 working days at \$1 per hour, and this was shown to be the reasonable rental value of a truck in the locality."

Things You Can't Do

In *Banks v. Watts*, 44 S. E. (2d) 510, Georgia, a trespasser sued a company for damages to compensate for burns he sustained from steam which an employee permitted to escape from a pipe. The company's counsel argued that it could not be liable because the injured person was a trespasser. Nevertheless the higher court held that the company was liable because its employee negligently let the steam escape. The court said:

"To look out along the course of the projected stream and ascertain if the way was clear would have required but a moment's notice. The deflection of the pipes downward, or to protect them by hoods was feasible."

YOU CAN'T refuse to pay agreed salary to an employee discharged before his term of employment expired. In

Magness v. Madden 207 S. W. (2d) 714, Ark., one Madden sued to recover damages for breach of a contract of employment. Madden proved that he was employed as manager of the Earle Co. for a term of five years at a salary of \$350 per month. The contract was in writing and signed by the parties. Madden entered upon duties July 1 and continued until November 3, when he was discharged. He sought damages in the amount of \$3000. The testimony showed that Madden was unable to obtain employment for twelve months after his discharge, and he spent \$700 looking for employment. In holding Madden entitled to recover \$8,000 damages, the court said: "It would not be reasonable to suppose that it was intended that the appellee (employer) should have the right to terminate the contract at will . . ."

MARKETING

Things You Can Do

YOU CAN hold an agent or employee personally liable on a contract made for his employer, if the agent neglects to inform you that he represents the employer. See *Riss*, 198 S. W. (2d) 347.

YOU CAN continue to operate your manufacturing plant even if city officials enact a new zoning ordinance.

In *Lynch v. Hills-Gale*, 54 Atl. (2d) 723, N. J., a company had for many years operated a plant. Homes were from time to time built in the vicinity of the plant and around it. Then the city passed an ordinance prohibiting any industrial plants or business structures in this vicinity. Since the company's plant was in operation before passage of the ordinance, the higher court held that it was not affected by the new ordinance.

Things You Can't Do

YOU CAN'T refuse to pay damages equal to the profit the other party would have earned had you not breached the contract. In *Springer v. O'Brien*, 190 Pac. (2d) 341, Kan., the testimony showed facts as follows: A manufacturer appointed one Springer as sole distributor of its products and accessories for the term of two years. As consideration for the exclusive franchise or agency Springer paid the manufacturer \$4,000. Springer immediately upon signing the contract undertook to sell the accessories, established a warehouse, traveled throughout the territory, engaged local dealers, solicited and obtained orders, but the manufacturer refused to furnish or ship the accessories

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ordered out by Springer. Springer sued the manufacturer for \$20,000 damages. The lower court held in favor of Springer and the higher court approved the verdict.

FINANCE AND INSURANCE

Things You Can Do

YOU CAN get a refund of overpaid federal income taxes if you file the claim within three years after you filed the income tax return, or within two years after you overpaid the taxes. In *Collector of Internal Revenue v. Liberty Company*, 68 S. Ct. 229, the Supreme Court of the United States held that the term "overpayment" means any payment in excess of that which is property due. Hence an excess payment may be an error in mathematics or error in judgment of the taxpayer, or in interpretation of facts or law. And this law is applicable whether the error is committed by the taxpayer or by the revenue agents.

YOU CAN compel consideration of all parties, including disinterested trustees, in a plan to reorganize a corporation. In *Olson v. Rossetter*, 77 N. E. (2d) 652, Ill., it was shown that a corporation was encumbered with first and second mortgage liens to secure an indebtedness of \$1,400,000. Some of the earlier maturing bonds were paid, but others were defaulted, and a suit to foreclose the first mortgage lien was instituted. Before the foreclosure a proceeding was started for

reorganization of the corporation. The higher court held that although the trustees were not parties to the plan of reorganization, their views must be duly considered.

Things You Can't Do

YOU CAN'T deduct 50 percent profits as long term capital assets, in your federal income tax returns if the profits were derived from your regular or secondary business. See *W. D. Haden Co. v. Commissioner*, 165 Fed. (2d) 588. Here the Haden Lime Co. acquired a lease on gravel-producing land. The higher court held that the loss from sale of the land was all capital loss although leasing land was not the company's regular business.

YOU CAN'T avoid or reduce your federal income tax payments by acquiring a partner in name only. See *Nordling v. Commissioner*, 166 Fed. (2d) 703. This court held that no valid partnership exists, which can be recognized for federal income tax purposes, unless the new partner contributed capital or services.

YOU CAN'T make a valid contract under which a corporation is authorized to manage another corporation's business. In *Long Park, Inc. v. Trenton-New Brunswick Theatres Co.*, 77 N. E. (2d) 633, N. Y., the B. F. Keith Corp., organized under the laws of the State of New York, had for some time been acting as manager of all theatres leased and operated by the Trenton-New Brunswick Theatre Corp. The higher court held this agreement void.

QUESTION BOX

QUESTION: We understand that a warehouseman is liable for loss or damage to stored goods which he moves into another warehouse without notice to the customer. How about moving the goods to different locations in the same warehouse? Security Warehouse and Transfer Co.

ANSWER: The liability of a warehouseman for loss of or damage to stored goods moved without permission from the customer to another location is based on contract breach. In other words, a warehouseman who agrees to store goods in a specific warehouse breaches his contract when he moves the goods into another warehouse. Hence, the warehouseman becomes liable for any and all losses. Now, therefore, the identical law is applicable if the warehouseman agrees to store goods in a stipulated location in a warehouse and without consent of the owner moves the goods into another location in the same warehouse. By so doing the warehouseman breaches his contract and is liable as an insurer. But the warehouseman may avoid liability if he proves that the owner gave him permission to move the goods, or that the owner knew that it was a custom of the warehouseman to transfer the goods from place to place during their storage.

QUESTION: Is an employer liable for injuries to employees during transportation to and from work if the em-

ployer furnishes the transportation? Fritzwater Company.

ANSWER: Yes, the employer is liable because the courts hold that the employee is within the scope of his employment while being transported by his employer. See *Inge*, 208 S. W. (2d) 867. Also, see *Terrell*, 126 S. W. (2d) 752. This court held that an employer is not liable for injuries to an employee who rides in his own automobile, although the employer furnished gasoline, oil, etc., and other expenses for operation of the car.

QUESTION: Is there any plan by which we can avoid future suits by employees for lawyer fees, back wages, etc., under the Fair Labor Standard Act? We have had some suits by employees and want to avoid future losses, as in one case we had to pay \$4,300 plus additional expenses. Williams Warehouse and Storage.

ANSWER: Yes, you can avoid these liabilities by having your employees sign contracts not to work overtime, or by instructing your employees not to work overtime. See *Blakely*, 208 S. W. (2d) 902, reported during the past month. This court refused to hold an employer liable for overtime to employees who worked overtime against instructions of the employer. These instructions were given at the time the employees took employment and the suits were filed many months later.

People in Distribution

For our readers' convenience, items referring to one person only are arranged alphabetically according to the individuals' names. Company news or changes affecting more than one individual are arranged alphabetically by company names. Association items are similarly arranged.

Alfred J. Crooks, executive vice president of Crooks Terminal Warehouses, Inc., was elected vice president of the Second Division Assn., organized by World War I veterans of Belleau Woods and Meuse-Argonne, during the recent reunion in Cleveland. As a marine in the Second Division, Alfred J. Crooks saw active duty in these two offensives.

Clancy W. Dayhoff, has been appointed director of public relations for the Los Angeles Harbor Dept.

George F. Fijux has been appointed vice president of Henry J. Comens, Inc., import-export trucking and warehousemen. (Vitkauskas)

Chester C. Fisk, former city manager of Berkeley, has been appointed to the post of manager of the Industrial Dept. of the San Francisco Chamber of Commerce.

Abraham Waldo French has rejoined Pan American as district sales manager in Boston. **Alfred C. Meyer**, formerly Boston district manager, has been transferred to Buffalo from which point he will cover upstate New York and Canadian points. Mr. French was with Pan American for a decade before going to Trans World Airlines as manager at Logan Airport, Boston.

Walter Holland, a native of Arkansas, has been appointed regional representative of the National Highway Users Conference for the states of Kansas, Missouri, Oklahoma, Arkansas and Texas.

John C. Kuster has joined the Scherer Freight Lines as traffic manager.

George Miller has been appointed general sales manager of the Newgren Co. which engineers, develops and sells specialized farm equipment for use as attachments to the Willys-Overland Jeep.

Frank H. Prusa has been elected vice president in charge of operations, National Terminals Corp., Cleveland, O. Mr. Prusa has been with National Terminals Corp. for 30 years.

Gordon Ross, who for many years has been associated with the Overland Terminal Warehouse Co. of Los Angeles, was elected president and manager of that organization.

M. W. Rowell, former executive director of the Committee on Small Business of the U. S. House of Representatives, and special consultant to the U. S. Senate on Small Business, has been named Washington, D. C., representative for Service Caster & Truck Corp., Albion, Mich. and Somerville, Mass.

Edward J. Schmidt has been appointed assistant to the general superintendent of motor vehicle equipment, Railway Express Agency.

John Taylor, member of the Traffic Dept., American Trucking Assns., Inc., has been appointed executive secretary of the District of Columbia Trucking Assn. by the Board of Directors.

Milton E. Taylor, former traffic manager for Consolidated Vultee, has been appointed traffic manager of Lyon Commercial Export, a division of Lyon Van & Storage Co. Taylor will handle traffic for the three Lyon plants in Los Angeles, San Diego, and Burbank which process, pack and ship aircraft and general commodities for export.

Eastern Air Lines has appointed **Thomas P. Gilroy**, who was former traffic and sales manager in Charleston, S. C., as traffic and sales manager in Hartford. **Henry J. Johnson** has been named supervisor of air cargo procedures with headquarters at the company's home office in New York. **L. G. Schaefer**, former station manager in Tallahassee, Fla., has been appointed traffic and sales manager and station manager in Charleston, S. C.

The Electric Storage Battery Co. has appointed **Thomas G. Tynan** to succeed **Harry W. Beedle** as manager Boston Branch. Mr. Beedle has retired after more than 38 years' service. **Herbert H. Warren** has been appointed assistant manager, New York Branch.

B. F. Goodrich Co., Akron, O., has appointed **Richard W. Corns** as general traffic manager. He replaces **Henry J. Zimmerman**, the oldest employee in point of service, who has been named assistant to the vice president and assigned to special administrative duties. (Kline)

International Harvester has made the following changes in branch personnel: **J. R. Scott** has been appointed branch manager at Grand Island, Neb., replacing **C. R. Russell**, who has retired. **L. E. Rykken**, was appointed branch manager at Watertown, S. Dak. **E. A. Zeitner**, was appointed branch manager at Madison, Wis.

Pan American Airways has appointed **Herbert F. Milley**, manager of the Central Sales Region. Replacing Mr. Milley as eastern regional manager will be **Samuel F. Leib**.

Rapids-Standard Co., Inc., materials handling equipment manufacturers of Grand Rapids, Mich., has appointed **George R. Brockway** as sales manager. He was formerly assistant sales manager and central regional sales manager. **Lloyd C. Backart**, formerly president and sales manager since incorporation of the firm, will continue actively in the company as chairman of the board. **William W. St. Cyr** has been appointed a sales representative in the states of Louisiana and Mississippi. **Richard R. Williams** has been appointed direct sales representative for the Toledo, O. territory.

Trailmobile Co. has appointed **James A. Bardsley**, who was formerly manager of Indianapolis, Ind. branch, as assistant sales manager for the company at Cincinnati, O. The appointment of **Alan Waddell** as manager of distributor sales was also made. Mr. Waddell is former president and general manager of Miller Trailers, Inc., of Brandenton, Fla. **E. W. Rowland**, formerly in charge of the order department, was named to assist Mr. Waddell. **H. R. Burdick** has been placed in charge of sales engineering and order departments, with **F. J. Wipper** as assistant in the order department. Trailmobile has disposed of its motor truck and cab production activities to a new company formed to take it over, the Truck Cab Manufacturers, Inc. of Cincinnati. (Wimmer)

Trans World Airline has appointed **James H. de Revere** as district manager in Boston. He succeeds **A. W. French** who has accepted a position with Pan American Airways. **Louis P. Marechal**, manager of sales research and market development, has been promoted to director of passenger sales, succeeding **James E. Hawthorne**, who resigned to become general manager of Allied Van Lines, Inc., at Chicago. **Stanley G. Markusen** has been appointed manager of public relations for Europe with headquarters in Paris. **Abdul Fattah Kazamel** has been appointed as public relations representative for Egypt.

American Warehousemen's Association, Merchandise Division president, **J. Leo Cooke** recently attended several Boston meetings in connection with his presidential duties. Mr. Cooke, who is vice president of Lehigh Warehouse and Transportation Co., states that warehousing in general was discussed at these meetings. A feature of the meetings was an informal dinner at which **Sherman L. Whipple, Jr.**, president, Wiggins Terminals, Inc., was host.

Junior World Trade Assn. of the San Francisco Chamber of Commerce has elected the following officers: President, **George W. Schmitz**, Wells Fargo Bank and Union Trust Co.; vice president, **Jack M. Weese**, Funch Edye & Co.; secretary, **Bruce A. McClelland**, Frazer and Hansen, Ltd.; treasurer, **John J. Buckley**, American President Lines. Board members, in addition to the officers, are: **Edward A. Myers, Jr.**, Otis McAllister & Co.; **Reno J. Franceschi**, Betz Brothers and Co.; **Charles M. Freeman**, Tidewater Associated Oil Co.; **Francis Novitzky**, American President Lines; and **Joseph A. Wagstaff**, S & W Fine Food.

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This special advertising section of public warehousing has been consolidated for ready reference and maximum utility. It includes merchandise, refrigerated, household goods and field warehouses. For shippers' convenience, states, cities and firms have been arranged alphabetically.

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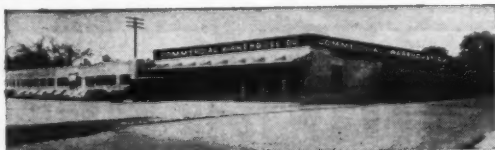
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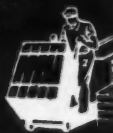
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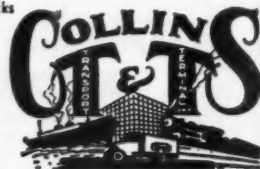
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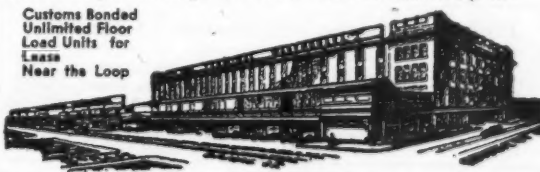
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October issue of D.A.

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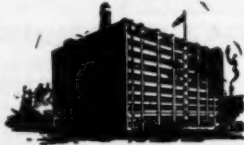
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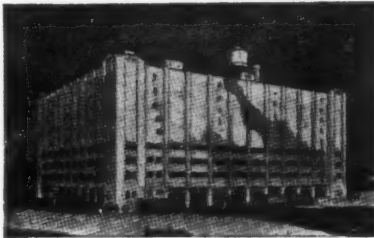
Leading air transportation authorities and staff correspondents team up for an authorita-
tive discussion of significant developments in the October issue of D.A.

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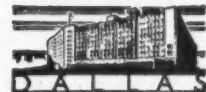
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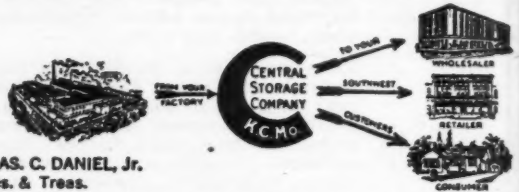
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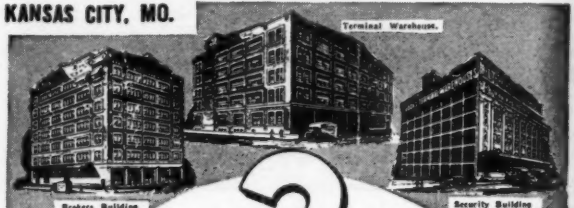
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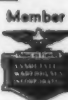
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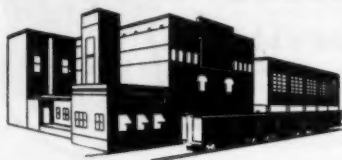
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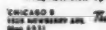
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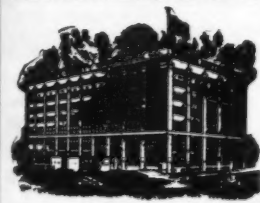


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Located in the heart of the jobbing district
MERCHANDISE STORAGE—POOL CAR DISTRIBUTION
Lowest Insurance Rates Automatic Sprinkler Watchman



HOUSTON, TEXAS

POOL CARS
OUR SPECIALTY

FEDERAL WAREHOUSE CO.

2001 NANCE STREET
HOUSTON 2

HOUSTON, TEXAS

New Location — Improved Facilities

BETTER WAREHOUSING IN HOUSTON

Our new warehouse is 800 feet long by 250 feet wide with car spot on the Mo. Pac. R. R. for 20 cars at one time. Plenty of truck dock space with wide area to maneuver trucks and trailers.
This modern one-story property with high ceilings and unlimited floor load capacity is fully equipped with modern materials handling apparatus.

HOUSTON CENTRAL WAREHOUSE and COLD STORAGE CO.

501 Middle Street

CHICAGO 8
1535 NEWBERRY AVE.
Mon. 5531

ALLIED DISTRIBUTION INC.

NEW YORK 18
11 WEST 42ND ST.
Penn. 6-0967

CHICAGO 8
1535 NEWBERRY AVE.
Mon. 5531

NEW YORK 18
11 WEST 42ND ST.
Penn. 6-0967

Houston 1, Texas

HOUSTON, TEXAS

Houston Terminal Warehouse & Cold Storage Company

781 No. SAN JACINTO ST., HOUSTON 2
General Storage Cold Storage U. S. Custom Bonded
A. D. T. Service Pool Car Distribution
Office Space Display Space Parking Space
Lowest Insurance Rate

New York Representative
Phone Plaza 3-1235

Chicago Representative
Phone Harrison 3688

HOUSTON, TEXAS

PATRICK TRANSFER & STORAGE CO.

1117 VINE STREET, HOUSTON 2

Merchandise and Household Goods Storage
Pool Car Distribution



Sprinklered—A.D.T. Watchmen
Shipside and Uptown Warehouses
Operators—Houston Division
Lone Star Package Car Co.

Member of N. F. W. A. — State and Local Assn's.



HOUSTON, TEXAS

W. E. FAIN, FOUNDER
W. T. FAIN, MANAGER

TEXAS WAREHOUSE COMPANY

Established 1901

Forty-Seven Years

Under Same Continuous Management

MERCHANDISE EXCLUSIVELY

Pool Car Distribution Sprinklered Throughout
A.D.T. Supervised Service

HOUSTON, TEXAS

UNION Transfer & Storage Co.

1113 Vine St. P.O. Box 305, Houston 1

Forwarding and Distributing

MERCHANDISE STORAGE

Warehouses Sprinklered Throughout

Supervised by A. D. T. Service.

SERVICE THAT COUNTS



HOUSTON, TEXAS

UNIVERSAL TERMINAL WAREHOUSE CO.

1002-1006 Washington Ave., Houston
Merchandise Storage—Pool Car Distribution—Drayage Service
A.D.T. Central Station Automatic Supervisory
Sprinkler, Waterflow, and Fire Alarm Service
Watchmen, U. S. Customs Bonded, Office Space
Represented in all principal cities by
UNIVERSAL CARLOADING & DISTRIBUTING COMPANY
Division of
UNITED STATES FREIGHT CO.
Members State and Local Associations

HOUSTON, TEXAS

BENJ. S. HURWITZ, Pres.

WESTHEIMER Transfer and Storage Co., Inc.

2306 McKinney Ave., Houston 1
Since 1883



Merchandise & Household Goods Storage—Pool Car Distribution—
Lift Van Service—20 car lengths of truckage.
Fireproof Warehouses—A.D.T. Automatic Fire and Burglary Protection
Agent for Allied Van Lines, Inc. State and Local Assn.

SAN ANTONIO, TEXAS

MERCHANTS
TRANSFER & STORAGE CO.
Merchants & Transfer Sts., San Antonio 6
Complete Storage and Distribution Service
Over 50 years of satisfactory service
Member of A.F.A.—N.F.A.—S.F.A.

SAN ANTONIO, TEXAS

Agent for Allied Van Lines, Inc.

Scobey Fireproof Storage Co.

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HOUSEHOLD — MER-
CHANDISE — COLD
STORAGE — CARTAGE
DISTRIBUTION

INSURANCE RATE --- 10c
Member of 4 Leading Associations



SAN ANTONIO, TEXAS

SOUTHERN TRANSFER & STORAGE CO.
P. O. BOX 4097, STA. A, SAN ANTONIO 7
Specialists in Merchandise Distribution
FIREPROOF CONSTRUCTION
BONDED STORAGE



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NEW YORK 10, N.Y. 10019

TYLER, TEXAS

IRA P. HILDEBRAND, Owner & Manager

HILDEBRAND WAREHOUSE COMPANY

Bonded under the Laws of Texas

General Storage and Distribution from the Center of
East Texas. Specializing in Pool Car Distribution
and Merchandise Warehousing

WICHITA FALLS, TEXAS

POOL CAR DISTRIBUTION

Since 1920

TARRY WAREHOUSE & STORAGE CO.

Wichita Falls, Texas

OGDEN, UTAH

MEMBER OF A.W.A.

WESTERN GATEWAY STORAGE CO.

GENERAL WAREHOUSING
POOL CAR DISTRIBUTION
MERCHANDISE AND COLD STORAGE

SALT LAKE CITY, UTAH

CENTRAL WAREHOUSE

520 West 2nd South St., Salt Lake City 1



Fireproof

Merchandise Storage

Pool Car Distribution

Sprinklered

Office Facilities

Member A. W. A.



SALT LAKE CITY, UTAH

Merchandise Storage and Distribution

Over 1,000,000 cubic feet reinforced Concrete Sprinklered Space

Insurance Rate 11 Cents

CORNWALL WAREHOUSE CO.

353 W. 2d South St., Salt Lake City 1

Represented by

ALLIED DISTRIBUTION, INC., and

DISTRIBUTION SERVICE, INC.

New York-Chicago-San Francisco

SALT LAKE CITY, UTAH

Merchandise Storage—Pool Car Distribution



KEYSER MOVING AND STORAGE CO

328 West 2nd South, Salt Lake City 1

Established 1910

72,000 sq. ft. space. Reinforced concrete
and brick. Central location. Systematic
delivery service. A. D. T. automatic
burglar and fire protection. Office and
desk space. Member-AWA-UVL-UWA-AWI



SALT LAKE CITY, UTAH

"Serving the Intermountain West"

SECURITY STORAGE & COMMISSION CO. Inc.

230 So. 4th West St., Salt Lake City (1)

Warehousing-Distribution service since 1906

Represented by American Chain of Warehouses

New York (17)

Chicago (4)

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Member of American Warehousemen Association

NORFOLK, VA.

Household • Automobile Storage • Merchandise

NEW-BELL STORAGE CORPORATION

22nd St. & Monticello Ave.

NORFOLK 10, VIRGINIA

MODERN SPRINKLER EQUIPPED WAREHOUSE

58,000 SQUARE FEET PRIVATE RAIL SIDING

Lowest Insurance Rate in Norfolk. Pool Car Distribution

WE SPECIALIZE IN MERCHANDISE STORAGE

AND DISTRIBUTION

AGENTS AERO MAYFLOWER TRANSIT COMPANY

Member M.W.A. & A.T.A.



NORFOLK, VA.

STORE and DISTRIBUTE IN THE PROSPEROUS TIDEWATER AREA THRU PRUDENTIAL

HOUSEHOLD GOODS MOVED, PACKED, SHIPPED
POOL CAR TRANSFER TRUCKING SERVICE
LARGE FIREPROOF WAREHOUSE
OPEN YARD STORAGE AVAILABLE
LOCATED ON N. & W. SIDING

PRUDENTIAL STORAGE and WAREHOUSE COMPANY

Billings St. at N. & W. Ry.

P. O. Drawer 1859 — Telephone 22481 or 54008

NORFOLK, VA.

Fine Warehousing Since 1914

Security Storage and Van Co.

500-530 FRONT STREET

COLLECTIONS • POOL CARS • DISTRIBUTION

MOTOR VAN AND LIFT VAN SERVICE

Member—Nat'l. F.W.A.—Allied Van Lines

NORFOLK, VA. Established 1892

SOUTHGATE

STORAGE COMPANY, Inc.

239 Tazewell St., Norfolk 10



For economical storage and distribution you will want to know more about our individualized services. Our fireproof warehouses are in the Southgate Terminal, on the waterfront and in the center of Norfolk's wholesale district. Served by all rail, water and motor lines.

Write for Booklet—"7 POINT DISTRIBUTION"

MEMBER
A.G.W.
A.W.A.
S.W.A.
U.S.C. & O.

RICHMOND, VA. 70 Years of Uninterrupted and Expert Service

BROOKS TRANSFER and STORAGE CO., Inc.

1224 W. Broad Street, Richmond 3, Va.

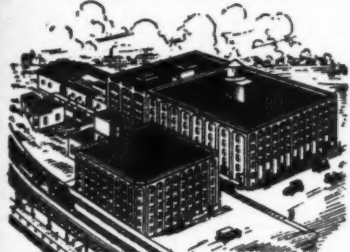
Three Fireproof Storage Warehouses—810,000 Cubic Feet Floor Space—Automatic Sprinkler System—Low Insurance Rates—Careful Attention to Storage—Packing and Shipping of Household Goods—Private Railroad Siding—Pool Car Distribution—Motor Van Service to All States—Freight Truck Line. Member of N. F. W. A. — A. T. A.

Agents: United Van Lines, Inc. serving 48 States and Canada.

RICHMOND, VA. Established 1908

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1700 E. CARY ST., RICHMOND 3, VA.




140,000 SQ. FT. SPACE
BUILDINGS SPRINKLERED
U. S. BONDED & PUBLIC WAREHOUSES
MERCHANDISE STORAGE & DISTRIBUTION
INSURANCE RATES
20c PER \$100 PER YEAR

ROANOKE, VA.

H. L. LAWSON & SON

Finance and Storage
Pool Car Distributors
General Merchandise Storage
421-25 EAST CAMPBELL AVE.
ROANOKE 7, VIRGINIA




Represented by
Associated Warehouses, Inc., Chicago and New York

ROANOKE, VA.

ROANOKE PUBLIC WAREHOUSE

369 W. Salem Ave., W., Roanoke 5

Capacity 500 Cars
Private Railroad Siding



Automatic Sprinkler
Accurate Accounting

We make a specialty of Storage and Pool Car Distribution for Agents, Brokers and General Merchandise Houses.
Member of American Chain of Warehouses

SEATTLE, WASH.

EYRES TRANSFER & WAREHOUSE CO.

2203 First Ave., So., Seattle 4

Cartage — Distribution — Storage

(Highest financial rating; new fireproof; A.D.T. sprinklered buildings; lowest insurance rate (18.2c); modern equipment.

SEATTLE, WASH.

LLOYD

Transfer Co. Inc.

POOL CAR DISTRIBUTION

MACHINERY MOVING, RIGGING AND HAULING

U. S. Custom Bonded

2400 Occidental Avenue Seattle 4, Washington

SEATTLE, WASH. J. R. GOODFELLOW, Pres.

OLYMPIC WAREHOUSE & COLD STORAGE CO.

MERCHANDISE STORAGE & DISTRIBUTION

1203 Western Avenue Seattle 1, Wash.

Cold Storage—Dry Storage—Rentals—Pool Car Distribution—Office Rentals
Fireproof, brick const.; Sprinkler system; Insurance rate: 12.8c. Siding connects with all rail lines.

Bonded U. S. Customs: State License No. 2
Member of A.W.A. (C.S.) Wash. State Whsmns. Assn.

SEATTLE, WASH. Seattle's One-Stop Warehousing Service!

UNITED CULBERTSON

Merchandise Storage & Distribution—U. S. Customs—See Stores • Seattle's Exclusive Furniture Repository

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Executive Offices: 1017 E. 40th St., Seattle 5
R. G. Culbertson, President Wm. T. Laube, Jr., Secretary



SEATTLE, WASH. Lloyd X. Coder, Pres. Ellis L. Coder, Secy.—Treas.

SYSTEM Transfer & Storage Co.

Established 1919

2601-11 Second Avenue, Seattle 1

Complete Drayage, Storage and Distribution Service

"System Service Satisfies"
Member—A.W.A.—W.S.W.A.—S.T.O.A.

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TAYLOR-EDWARDS WAREHOUSE & TRANSFER CO., INC.

1020 Fourth Avenue South Seattle 4

WAREHOUSING • DISTRIBUTION • TRUCKING

Represented by
DISTRIBUTION SERVICE, INC.
New York—Chicago—San Francisco

SPOKANE, WASH. P. C. HINTON, Owner

RIVERSIDE WAREHOUSES, INC.

E. 41 Gray Avenue, Spokane, 8

Telephone, Office and Stenographic Service

Specialize in serving food and related industries; pool car distribution; 44 trucks and tractors with semi-trailers. New 10,000 ft. modern warehouse equipped with fork-lift trucks.



SPOKANE, WASH.

TAYLOR-EDWARDS WAREHOUSE & TRANSFER CO., INC.

310 W. Pacific Avenue Spokane 8

WAREHOUSING • DISTRIBUTION • TRUCKING

Represented by
DISTRIBUTION SERVICE, INC.
New York—Chicago—San Francisco

TACOMA, WASH.

TAYLOR-EDWARDS WAREHOUSE & TRANSFER CO., INC.

401 East 21st St. Tacoma 3

WAREHOUSING • DISTRIBUTION • TRUCKING

Represented by
DISTRIBUTION SERVICE, INC.
New York—Chicago—San Francisco

HUNTINGTON, W. VA.

Every facility for you and your patrons' convenience to secure your share of this Five Hundred Million Dollar market is available through

THE W. J. MAIER STORAGE COMPANY
1100 Second Ave., Huntington 10

MADISON, WIS.

LOW INSURANCE RATE

CENTRAL

STORAGE AND WAREHOUSE COMPANY

COLD STORAGE

DRY STORAGE

FREEZER STORAGE

612 W. Main St., Madison 3

GREEN BAY, WIS.

ESTABLISHED 1903

LEIGHT TRANSFER & STORAGE CO.

123 SO. BROADWAY • GREEN BAY • WIS.



New York Offices

Interlake Terminals, Inc.
271 Madison Ave. (16)
Merchandise Storage
Pool Car Distribution
Transit Storage
Household Goods Storage
Heated—Unheated—Yard
Storage
Waterfront Facilities
Stevedore Services
Complete local and over-the-road truck services with 70 trailers of all types of equipment, including low-bed trailers, winches and cranes.
Aero-Mayflower moving and storage

Marinette Office:

1720 Pierce St.
Marinette, Wis.
U. S. Customs, State and
Public Bonded
40 Car Track Capacity
Modern Handling
Equipment
Private Siding on C&NW,
CMS&P&P, GS&W Lines
Reciprocal Switching all
lines
Inquiries Invited

SMALL ORDERS

(Continued from Page 69)

move will preserve the life of these catalogs until the supply is exhausted. Catalog life is an item of major importance to distributors, because of the tremendous cost of compiling and publishing each new catalog. Many times in the past distributors' catalogs have become obsolete before they were delivered by the printer, because of changes in the list price of one or more products.

In an effort to reduce distribution costs, one group of distributors has encouraged the exchange of operational information having a bearing on cost reductions enabling them to adopt the more efficient and cost saving practices of other distributors.

The distributor associations have outlined a program for the consideration of manufacturers. They hope that those manufacturers who distribute their products through industrial distributors will give serious study to this program, and will act, wherever it is practical, to effect the changes suggested.

Highway Barriers

Barriers to interstate automotive and truck traffic must be leveled just as were those which impeded railroad progress in the 1800's. E. J. Bush, president, Diamond T Motor Car Co., told the Second Highway Transportation Congress recently. He said that public opinion must be called into force in order to liberate the highways from unfair regulation. He cited the case of the "pig which could travel from coast to coast without changing cars" as an instance of how public opinion apparently resulted in the leveling of a recent railroad barrier by the roads.

American Standards Assn., Inc. is the new name of the American Standards Assn. Incorporation under the laws of the state of New York took place Aug. 2. Bills seeking federal incorporation are before the Senate and the House. Frederick B. Lack, vice president, Western Electric Co., is president of the incorporated association; Vice-Adm. G. F. Hussey, Jr. (USN-Ret.) is secretary and administrative head, and Cyril Ainsworth is technical director.

J. M. Barclay, Inc., Newark, N. J., has been organized as sales representative in New Jersey north of Trenton for the Automatic Transportation Co., Chicago materials handling equipment manufacturer. J. M. "Ted" Barclay is president. His staff of eight includes Howard Underwood, in charge of repair, service and the department of surveys, as secretary; Paul Gilbert; Dan Rossi; and Charles Lydecker.

Bemis Bro. Bag Co. has purchased the land, buildings and equipment formerly owned by the Gallie-King Bag Co., Houston, Tex. F. V. Deaderick, manager of the Bemis factory at Houston, handled the transaction for his company and will add supervision of the new property to his responsibilities.

The Glenn P. Crissman Co., distributors of materials handling equipment, has been incorporated. Prior to its incorporation, the company was operated under the personal ownership of Glenn P. Crissman, its founder. He will serve as president of the new corporation. Other officers are D. N. Gatfield, vice president and sales director; J. T. Collins, controller, and G. E. Braidel, secretary treasurer. (Vitkauskas)

Crooks Terminal Warehouse, Inc. have celebrated a double anniversary—35 years in Chicago and 25 years in Kansas City.

The Seattle Export Lumber Co., wholly owned subsidiary of United States Plywood Corp. will henceforth be known as

United States Plywood Corp., Lumber Div., L. J. Walby is manager.

The Trailmobile Co., manufacturers of truck-trailers, has announced the opening of a new Factory Branch at Atlanta, Ga. The general offices and main plant of the company are located in Cincinnati, O. Other plants are operated at Springfield, Mo., Ft. Smith, Ark., Berkeley, Cal., and Windsor, Canada. The Atlanta Branch will be under the management of L. C. Doss, who has been associated with Trailmobile both in the main office and in the field for the past seven years. The appointment of Ralph H. Cannon and Edward L. Steinhauer as sales representatives was also announced.

Truck Cab Manufacturers, Inc., Cincinnati, O. has been incorporated to make motor truck and tractor cabs. John Weber is president. He was engineer and designer for Trailmobile Co. for 14 years. Other officers are: Paul J. Uffman, vice president; William P. Staubitz, treasurer; Edward P. Staubitz, assistant treasurer, and Henry B. Horner, secretary. (Wimmer)

Obituary

Roland C. Allen, 67, first vice president of Oglebay, Norton & Co., Cleveland, lakes shipping firm; past president of the Saginaw Dock & Terminal Co.

W. S. Curlett, retired tariff publishing agent, Trunk Line Assn.; member, The Traffic Club of New York, Inc.

H. C. Hamilton, retired assistant to traffic manager, Lehigh Valley Railroad; member, The Traffic Club of New York, Inc.

Howard F. Hand, 64, president of the Hand Storage Co., Elizabeth, N. J.; member, Elmora Country Club, the Rotary Club of Elizabeth, and the American Legion. (Vitkauskas)

Bertram Obst, Traffic manager, Lily-Tulip Corp.; member, The Traffic Club of New York, Inc.

and Firms are Arranged Alphabetically

MILWAUKEE, WIS.

Service Minded

"Store American" For Economical Efficient Complete Merchandise Warehousing

SPECIALISTS IN POOL CAR DISTRIBUTION
AMERICAN WAREHOUSE CO.

General Office 325 East Chicago St. Milwaukee, Wis. House No. 2 302 North Jackson St. Private Siding—Chicago & North Western Ry. 3rd Ward District

MILWAUKEE, WIS.

MILWAUKEE'S ONLY COMPLETELY PALLETIZED WAREHOUSE

• Over 1½ Million Cubic Foot First Floor Space •



ATLAS STORAGE

DIVISION OF P & V-ATLAS INDUSTRIAL CENTER INC.
647 W. VIRGINIA ST. MILWAUKEE 1, WIS.



LARGEST AND MOST MODERN

MILWAUKEE, WIS.



LINCOLN

WAREHOUSE COMPANY
MERCHANDISE WAREHOUSING
AND DISTRIBUTION

LOCATED IN HEART OF BUSINESS DISTRICT
Offices: 206 W. Highland Ave., Milwaukee 3
Member of A.W.A.—W.W.A.—M.W.A.

MILWAUKEE, WIS.

NATIONAL TERMINALS CORPORATION

954 So. Water Street, Milwaukee 4 Tel. Mitchell 5644
Milwaukee's most modern and best located Waterfront Warehouse.
Automobile storage. Warehousing on unit basis for spot stocks. Storage
"in transit". Pool car distribution. Customs Bonded.
Member of A. W. A. & W. W. A.
New York Office: 55 W. 42nd St., Phone LACKAWANNA 4-0063, New York 18, N. Y.

MILWAUKEE, WIS.

—Phone Marquette 7091

TERMINAL STORAGE CO.

100-112 W. Seeboth St.
Milwaukee 4, Wisconsin

Cooler, Freezer and General Merchandising Storage
Deep Water Dock, Private Siding
on C.M.St.P. & P. R.R.

MILWAUKEE, WIS.

"Milwaukee's Finest"

National Warehouse Corporation

— STATE BONDED —

EVERY CONCEIVABLE WAREHOUSE & DISTRIBUTION SERVICE AFFORDED



A.D.T. Service

**468 E. Bruce St.
Milwaukee 4**

C. & N.W.R.R. Siding



SHAWANO, WIS.

Modern Building, Reinforced Concrete Construction

SHAWANO TERMINAL WAREHOUSE

120 E. Richmond Street Shawano, Wisconsin

General Merchandise Storage

Low Insurance Rates

POOL CAR DISTRIBUTION

Licensed and Bonded. Private Siding Chicago & Northwestern R. R.
Member Wis. W. A.

SHEBOYGAN, WIS.



SHEBOYGAN WAREHOUSE & FORWARDING CO.

A Merchants & Manufacturers Warehouse

11th and Illinois Ave. Sheboygan, Wis.

Member of A.W.A.—May. W.A.—Wis. W.A.



CANADA

TORONTO, ONT.

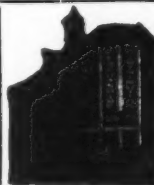
M. A. RAWLINSON, Pres. & Gen. Mgr.

M. RAWLINSON, Ltd.

Established 1885 610 Yonge St., Toronto 5, Can.
Seven Buildings to Meet All Requirements for Modern Storage
and Distribution
Customs Bonded. Pool Car Distribution. Household Goods
Moved, Packed, Shipped and Stored.

Members of CanWA—NFWA—BAIFR—FWRA—TC&W—ALLIED VAN LINES

MONTREAL, QUE.



St. Lawrence Warehouse Inc.

1-VAN HORNE AVENUE, MONTREAL, CANADA

200,000 SQ. FT. OF MODERN FIREPROOF SPACE
LOCATED IN THE EXACT CENTER OF THE CITY
OF MONTREAL

Canadian Customs Bond. Private Siding—8 Car
Capacity—Free Switching—All Railroad Connections

New York Representative: Frank J. Tully
277 Broadway, New York 7 Phone WORTH 2-0428

MONTREAL, QUEBEC

Established 1908
W. G. KENWOOD,
Pres. & Man. Dir.

Westmount Transfer & Storage Ltd.

205 Olivier Ave., Westmount, P. Q.
LOCAL AND LONG DISTANCE MOVERS

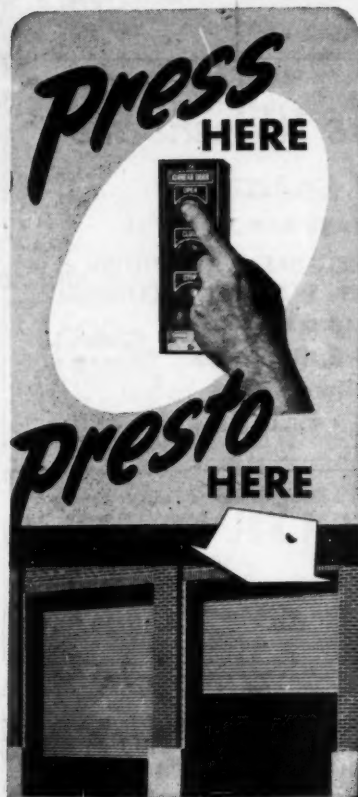
Private Room System for Storage

CRATING, PACKING and SHIPPING

Charges Collected and Promptly Remitted

Member: N. F. W. A., Can. W. A.





Motor-operated KINNEAR DOORS respond with magic ease to push-button control

It's sheer magic the way you can shave manpower losses and plug profit drains at doorways with Kinnear Steel Rolling Doors. A split-second and mere fingertip pressure are all the time and effort needed to start or stop these doors equipped with rugged Kinnear Motor Operators. Any number of push-button stations can be placed at strategic points—at door jamb for on-the-spot operation and elsewhere for step-saving remote control. And any number of doors can be operated from a single station.

The prompt, glide-smooth door action is possible because the Kinnear *interlocking-slat* steel curtain *lifts vertically* and coils compactly above the lintel. Openings remain completely clear. All surrounding floor and wall space is usable. This tough, flexible, all-metal door protector withstands years of weather attacks; resists fire and theft. For a better check-rein on profit leaks in plant operation, rely on efficient, economical Kinnear Steel Rolling Doors. Build any size, for installation in old or new buildings. Write for more facts today.

THE KINNEAR MANUFACTURING CO.

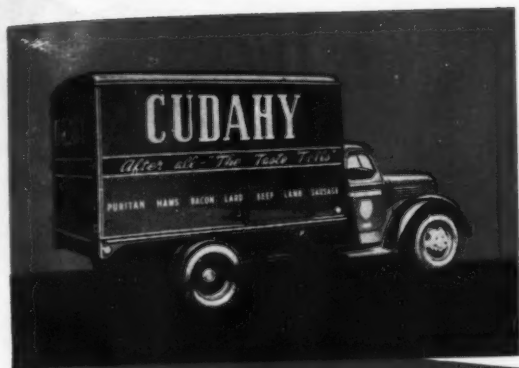
Factories: 1240-50 Field's Avenue, Columbus 16, Ohio
1742 Yosemite Avenue, San Francisco 24, California
Offices and Agents in Principal Cities



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... *Why* PAY CUSTOM-BUILT PRICES FOR A *Truck Body* ..WHEN YOU CAN GET CUSTOM-QUALITY AT PRODUCTION-LINE PRICES ?

Can you afford to pay a premium, custom-built price for your Truck Body when Fruehauf offers you a body, built to the highest standards of quality, for less?

Compare your specifications with the types, sizes, and door combinations available in the Fruehauf line. Look further at the advantages of Fruehauf construction — proven through a third of a century of Trailer body building. You'll readily see why the Fruehauf Truck Body insures unusual sturdiness with the very minimum of weight.

But how can Fruehauf offer such value?

The answer: Mass production methods of manufacture and nation-wide Factory Branch distribution.

Call in a Fruehauf representative or authorized Distributor. Let him show you "quality-wise" and "price-wise" why it pays to specify a Fruehauf Body when you order your truck chassis.

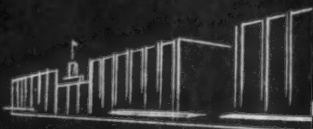
BODY DIVISION

FRUEHAUF TRAILER COMPANY
DETROIT 32

FRUEHAUF

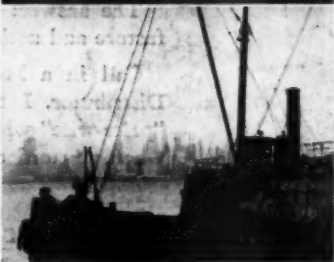
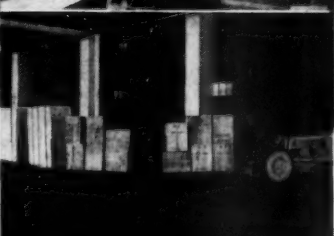
TRUCK BODIES

Is there an
expert
in the
house?



There is. At Harborside you can count on expert personal attention in the solving of your distributional problems in the New York market. Safe storage, capable handling, efficient expediting—all under experienced, interested direction—combine to make Harborside most attractive as your operational headquarters for this teeming beehive of commerce.

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